

Appendix C
Frost Protection

Appendix C

Placement and Quality Control Test Records for the AGTI Enhancement: Frost Protection Extension

**Table C.1. Daily Quantities and Quality Control Test Frequencies for the Above-Grade Tailings Impoundment Design Enhancement
Frost Protection Layer: 1999-2000**

Note: This table lists only those days that fill was placed and/or testing performed. CY = Cubic Yards; NG = Nuclear Gauge (test), i.e., field compaction test.

Testing Frequency Requirements:

Field Compaction Tests: 1: 500 CY

Proctors: 1: 5000 CY

Sand-Cones: 1:10 NG tests

Date	Total Quantities Placed		Field Compaction Test Frequency			Proctor Test Frequency			Sand-Cone Test Frequency		
	Daily Yardage	Cumulative Yardage	Daily Tests Performed	Cumulative No. of Tests	Ratio (per CY)	Daily Tests Performed	Cumulative No. of Tests	Ratio (per CY)	Daily Tests Performed	Cumulative No. of Tests	Ratio (/NG tests)
6/9/99	1,596	1,596	0	0	--	3	3	1: 532		0	--
6/10/99	4,216	5,812	12	12	1: 484	1	4	1: 1453	2	2	1: 6
6/11/99	6,392	12,204	16	28	1: 436	3	7	1: 1743	1	3	1: 9
6/14/99	3,143	15,347	11	39	1: 394		7	1: 2192	1	4	1: 10
6/15/99	3,370	18,717	8	47	1: 398	1	8	1: 2340	1	5	1: 9
6/16/99	4,378	23,095	8	55	1: 420		8	1: 2887	1	6	1: 9
6/17/99	0	23,095	0	55	1: 420	1	9	1: 2566		6	1: 9
6/21/99	6,145	29,240	9	64	1: 457	1	10	1: 2924	1	7	1: 9
6/22/99	6,286	35,526	16	80	1: 444	1	11	1: 3230	2	9	1: 9
6/23/99	2,837	38,363	18	98	1: 391	2	13	1: 2951	2	11	1: 9
6/24/99	1,883	40,246	0	98	1: 411	1	14	1: 2875		11	1: 9
6/25/99	8,197	48,443	15	113	1: 429		14	1: 3460	1	12	1: 9
6/28/99	2,699	51,142	6	119	1: 430		14	1: 3653	1	13	1: 9
6/29/99	3,874	55,016	0	119	1: 462	1	15	1: 3668		13	1: 9
6/30/99	517	55,533	5	124	1: 448		15	1: 3702		13	1: 10
7/1/99	4,982	60,515	10	134	1: 452	1	16	1: 3782		13	1: 10
7/2/99	7,379	67,894	14	148	1: 459		16	1: 4243	2	15	1: 10
7/6/99	15,715	83,609	17	165	1: 507	1	17	1: 4918	2	17	1: 10
7/7/99	4,379	87,988	26	191	1: 461	5	22	1: 3999	2	19	1: 10
7/8/99	0	87,988	0	191	1: 461	1	23	1: 3826		19	1: 10
7/9/99	3,799	91,787	6	197	1: 466	2	25	1: 3671	1	20	1: 10
7/12/99	8,631	100,418	18	215	1: 467	3	28	1: 3586	2	22	1: 10
7/13/99	8,714	109,132	10	225	1: 485	1	29	1: 3763	1	23	1: 10
7/14/99	4,931	114,063	13	238	1: 479	2	31	1: 3679	1	24	1: 10
7/15/99	10,836	124,899	19	257	1: 486	2	33	1: 3785	2	26	1: 10
7/16/99	7,518	132,417	12	269	1: 492		33	1: 4013	1	27	1: 10
7/19/99	147	132,564	0	269	1: 493		33	1: 4017		27	1: 10
7/20/99	9,155	141,719	11	280	1: 506		33	1: 4295	2	29	1: 10
7/21/99	1,386	143,105	2	282	1: 507		33	1: 4337		29	1: 10
7/22/99	3,528	146,633	10	292	1: 502	1	34	1: 4313	1	30	1: 10
7/23/99	6,447	153,080	13	305	1: 502	1	35	1: 4374		30	1: 10
7/26/99	0	153,080	0	305	1: 502		35	1: 4374	1	31	1: 10
7/28/99	9,409	162,489	28	333	1: 488	2	37	1: 4392	2	33	1: 10

**Table C.1. Daily Quantities and Quality Control Test Frequencies for the Above-Grade Tailings Impoundment Design Enhancement
Frost Protection Layer: 1999-2000**

Note: This table lists only those days that fill was placed and/or testing performed. CY = Cubic Yards; NG = Nuclear Gauge (test), i.e., field compaction test.

Testing Frequency Requirements:

Field Compaction Tests: 1: 500 CY

Proctors: 1: 5000 CY

Sand-Cones: 1:10 NG tests

Date	<u>Total Quantities Placed</u>		<u>Field Compaction Test Frequency</u>			<u>Proctor Test Frequency</u>			<u>Sand-Cone Test Frequency</u>		
	Daily Yardage	Cumulative Yardage	Daily Tests Performed	Cumulative No. of Tests	Ratio (per CY)	Daily Tests Performed	Cumulative No. of Tests	Ratio (per CY)	Daily Tests Performed	Cumulative No. of Tests	Ratio (/NG tests)
7/29/99	0	162,489	2	335	1: 485	1	38	1: 4276	1	34	1: 10
7/30/99	849	163,338	0	335	1: 488		38	1: 4298		34	1: 10
8/2/99	4,576	167,914	8	343	1: 490		38	1: 4419	1	35	1: 10
8/3/99	9,559	177,473	20	363	1: 489		38	1: 4670	3	38	1: 10
8/4/99	10,085	187,558	20	383	1: 490	3	41	1: 4575	2	40	1: 10
8/5/99	12,222	199,780	27	410	1: 487	3	44	1: 4540	2	42	1: 10
8/6/99	4,095	203,875	2	412	1: 495	3	47	1: 4338	1	43	1: 10
8/9/99	16,170	220,045	34	446	1: 493	1	48	1: 4584	3	46	1: 10
8/10/99	17,220	237,265	35	481	1: 493	5	53	1: 4477	3	49	1: 10
8/11/99	13,337	250,602	20	501	1: 500	4	57	1: 4397	1	50	1: 10
8/12/99	11,466	262,068	20	521	1: 503	3	60	1: 4368	3	53	1: 10
8/13/99	2,412	264,480	16	537	1: 493	3	63	1: 4198	1	54	1: 10
8/16/99	794	265,274	14	551	1: 481	1	64	1: 4145	2	56	1: 10
8/17/99	6,347	271,621	28	579	1: 469	2	66	1: 4115	2	58	1: 10
8/18/99	7,539	279,160	8	587	1: 476	1	67	1: 4167	1	59	1: 10
8/19/99	8,820	287,980	18	605	1: 476	1	68	1: 4235	1	60	1: 10
8/20/99	11,184	299,164	20	625	1: 479		68	1: 4399	2	62	1: 10
8/23/99	14,553	313,717	9	634	1: 495		68	1: 4613	1	63	1: 10
8/24/99	12,705	326,422	19	653	1: 500	2	70	1: 4663	2	65	1: 10
8/25/99	9,891	336,313	13	666	1: 505		70	1: 4804	1	66	1: 10
8/26/99	1,596	337,909	9	675	1: 501		70	1: 4827	1	67	1: 10
8/27/99	1,848	339,757	11	686	1: 495		70	1: 4854	1	68	1: 10
8/30/99	2,268	342,025	2	688	1: 497		70	1: 4886		68	1: 10
8/31/99	0	342,025	6	694	1: 493	1	71	1: 4817	1	69	1: 10
9/1/99	0	342,025	3	697	1: 491		71	1: 4817	1	70	1: 10
5/18/00	0	342,025		697	1: 491	1	72	1: 4750		70	1: 10
5/25/00	5,022	347,047	3	700	1: 496		72	1: 4820		70	1: 10
5/26/00	6,021	353,068	12	712	1: 496	1	73	1: 4837		70	1: 10
5/30/00	6,057	359,125	8	720	1: 499	1	74	1: 4853	2	72	1: 10
5/31/00	4,374	363,499	17	737	1: 493	1	75	1: 4847	1	73	1: 10
6/1/00	3,732	367,231	6	743	1: 494	1	76	1: 4832	1	74	1: 10
6/2/00	6,606	373,837	11	754	1: 496	2	78	1: 4793	1	75	1: 10
6/5/00	8,874	382,711	16	770	1: 497	1	79	1: 4844	1	76	1: 10

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Frost Protection Layer: 1999-2000**

Note: This table lists only those days that fill was placed and/or testing performed. CY = Cubic Yards; NG = Nuclear Gauge (test), i.e., field compaction test.

Testing Frequency Requirements:

Field Compaction Tests: 1: 500 CY

Proctors: 1: 5000 CY

Sand-Cones: 1:10 NG tests

Date	<u>Total Quantities Placed</u>		<u>Field Compaction Test Frequency</u>			<u>Proctor Test Frequency</u>			<u>Sand-Cone Test Frequency</u>		
	Daily Yardage	Cumulative Yardage	Daily Tests Performed	Cumulative No. of Tests	Ratio (per CY)	Daily Tests Performed	Cumulative No. of Tests	Ratio (per CY)	Daily Tests Performed	Cumulative No. of Tests	Ratio (/NG tests)
6/6/00	9,552	392,263	19	789	1: 497	2	81	1: 4843	1	77	1: 10
6/7/00	11,217	403,480	18	807	1: 500	2	83	1: 4861	1	78	1: 10
6/8/00	9,255	412,735	23	830	1: 497	3	86	1: 4799	2	80	1: 10
6/9/00	9,660	422,395	16	846	1: 499	2	88	1: 4800	2	82	1: 10
6/12/00	7,590	429,985	15	861	1: 499	1	89	1: 4831	2	84	1: 10
6/13/00	8,397	438,382	18	879	1: 499	2	91	1: 4817	1	85	1: 10
6/14/00	9,534	447,916	11	890	1: 503	1	92	1: 4869	1	86	1: 10
6/15/00	5,193	453,109	20	910	1: 498	3	95	1: 4770	1	87	1: 10
6/19/00	4,722	457,831	17	927	1: 494	1	96	1: 4769	1	88	1: 11
6/21/00	7,980	465,811	13	940	1: 496	2	98	1: 4753	3	91	1: 10
6/22/00	7,287	473,098	17	957	1: 494	2	100	1: 4731	3	94	1: 10
6/23/00	2,856	475,954	15	972	1: 490	1	101	1: 4712	2	96	1: 10
7/14/00	273	476,227		972	1: 490		101	1: 4715		96	1: 10
7/17/00	1,701	477,928		972	1: 492		101	1: 4732		96	1: 10
7/18/00	2,058	479,986	3	975	1: 492	1	102	1: 4706		96	1: 10
7/19/00	714	480,700	4	979	1: 491		102	1: 4713	1	97	1: 10
7/20/00	924	481,624		979	1: 492		102	1: 4722		97	1: 10
7/24/00	1,008	482,632		979	1: 493		102	1: 4732		97	1: 10
7/27/00	2,079	484,711		979	1: 495		102	1: 4752		97	1: 10
7/28/00	2,499	487,210	6	985	1: 495	1	103	1: 4730		97	1: 10
7/31/00	2,310	489,520		985	1: 497		103	1: 4753		97	1: 10
8/1/00	1,722	491,242		985	1: 499		103	1: 4769		97	1: 10
8/2/00	0	491,242	2	987	1: 498		103	1: 4769		97	1: 10
8/3/00	0	491,242	9	996	1: 493	1	104	1: 4723	2	99	1: 10
8/8/00	357	491,599		996	1: 494		104	1: 4727		99	1: 10
9/5/00	861	492,460	3	999	1: 493	1	105	1: 4690		99	1: 10
9/6/00	2,625	495,085	5	1004	1: 493		105	1: 4715	1	100	1: 10
9/7/00	1,470	496,555	2	1006	1: 494	1	106	1: 4684		100	1: 10

Summary: Year CY Placed
 1999 342,025
 2000 154,530
Total: **496,555**

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F001	6/10/99	793470	836650	1	FB-03	119.1	13.0	117.3	13.9	98.5	P	
F002	* 6/10/99	793620	836680	1	FB-03	119.1	13.0	116.8	12.1	98.1	P	
F003	6/10/99	793750	836670	1	FB-03	119.1	13.0	115.1	14.7	96.6	P	
F004	6/10/99	793480	836580	1	FB-03	119.1	13.0	113.1	14.8	95.0	P	
F005	6/10/99	793820	836760	1	FB-03	119.1	13.0	111.2	14.5	93.4	F Comp	Fails Compaction
F005R	6/10/99	793820	836760	1	FB-03	119.1	13.0	117.0	11.0	98.2	P	Retest
F006	6/10/99	793680	836620	1	FB-03	119.1	13.0	116.9	9.6	98.2	F Moist	Fails Moisture
F006R	* 6/10/99	793680	836620	1	FB-03	119.1	13.0	113.1	11.9	95.0	P	Retest
F007	6/10/99	793560	836600	1	FB-03	119.1	13.0	113.2	10.6	95.0	F Moist	Fails Moisture
F007R	6/10/99	793560	836600	1	FB-03	119.1	13.0	115.7	14.2	97.1	P	Retest
F008	6/10/99	793710	836710	1	FB-03	119.1	13.0	118.0	11.6	99.1	P	
F009	6/10/99	793520	836660	2	FB-03	119.1	13.0	112.2	14.7	94.2	F Comp	Fails Compaction
F009R	6/11/99	793520	836660	2	FB-03	119.1	13.0	117.4	12.4	98.6	P	Retest
F010	6/10/99	793630	836650	2	FB-03	119.1	13.0	110.9	12.5	93.1	F Comp	Fails Compaction
F010R	6/11/99	793630	836650	2	FB-03	119.1	13.0	112.2	13.0	94.2	F Comp	Retest Fails Compaction
F010R1	6/11/99	793630	836650	2	FB-03	119.1	13.0	116.0	11.9	97.4	P	Second Retest Passes
F011	6/10/99	793520	836600	2	FB-02	118.4	13.4	116.0	13.0	98.0	P	
F012	6/10/99	793820	836670	2	FB-02	118.4	13.4	120.5	12.9	101.8	P	
F013	6/11/99	793530	836650	3	FB-02	118.4	13.4	115.2	11.7	97.3	P	
F014	6/11/99	793710	836690	3	FB-02	118.4	13.4	117.1	12.3	98.9	P	
F015	6/11/99	793750	836650	3	FB-02	118.4	13.4	113.2	17.1	95.6	P	
F016	6/11/99	793600	836610	3	FB-02	118.4	13.4	117.7	14.1	99.4	P	
F017	* 6/11/99	793470	836570	3	FB-02	118.4	13.4	116.1	12.9	98.1	P	
F018	6/11/99	793940	836700	1	FB-02	118.4	13.4	115.2	12.7	97.3	P	
F019	6/11/99	793980	836800	1	FB-02	118.4	13.4	115.5	14.2	97.6	P	
F020	6/11/99	793900	836720	2	FB-01	116.3	13.7	118.1	13.1	101.5	P	
F021	6/11/99	793890	836790	2	FB-01	116.3	13.7	115.9	12.2	99.7	P	
F022	6/11/99	793580	836650	4	FB-01	116.3	13.7	115.5	14.6	99.3	P	
F023	6/11/99	793680	836620	4	FB-01	116.3	13.7	115.5	12.1	99.3	P	
F024	6/11/99	794020	836740	1	FB-01	116.3	13.7	113.6	12.3	97.7	P	
F025	6/11/99	793930	836830	1	FB-01	116.3	13.7	114.7	11.8	98.6	P	
F026	6/11/99	793490	836630	5	FB-01	116.3	13.7	116.4	14.2	100.1	P	
F027	6/11/99	793970	836740	2	FB-01	116.3	13.7	115.0	15.7	98.9	P	
F028	6/11/99	794030	836830	2	FB-01	116.3	13.7	114.4	14.8	98.4	P	
F029	* 6/14/99	793750	836670	5	FB-03	119.1	13.0	113.3	11.9	95.1	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F030	6/14/99	793610	836610	4	FB-03	119.1	13.0	114.9	11.9	96.5	P	
F031	6/14/99	793830	836670	3	FB-06	118.5	13.8	116.2	14.0	98.1	P	
F032	6/14/99	793520	836590	4	FB-06	118.5	13.8	112.5	13.9	94.9	P	Test passed by QC officer (rounds up)
F033	6/14/99	793690	836630	4	FB-06	118.5	13.8	117.8	12.7	99.4	P	
F034	6/14/99	793920	836710	4	FB-06	118.5	13.8	115.8	12.4	97.7	P	
F035	6/14/99	793860	836710	3	FB-06	118.5	13.8	112.7	12.1	95.1	P	
F036	6/14/99	793980	836760	3	FB-06	118.5	13.8	113.9	12.5	96.1	P	
F037	6/14/99	793830	836710	4	FB-06	118.5	13.8	116.4	12.9	98.2	P	
F038	6/14/99	793460	836580	5	FB-06	118.5	13.8	113.7	12.4	95.9	P	
F039	6/14/99	793610	836630	5	FB-06	118.5	13.8	115.2	13.7	97.2	P	
F040	*	6/15/99	793980	5	FB-06	118.5	13.8	114.3	15.2	96.5	P	
F041	6/15/99	794020	836770	1	FB-07	118.1	12.1	116.3	13.6	98.5	P	
F042	6/15/99	793950	836730	2	FB-07	118.1	12.1	114.8	16.4	97.2	P	
F043	6/15/99	794150	836770	1	FB-07	118.1	12.1	114.4	14.1	96.9	P	
F044	6/15/99	794100	836750	2	FB-07	118.1	12.1	115.9	13.9	98.1	P	
F045	6/15/99	794080	836810	2	FB-07	118.1	12.1	114.3	14.6	96.8	P	
F046	6/15/99	794120	836840	1	FB-07	118.1	12.1	114.1	13.8	96.6	P	
F047	6/15/99	794180	836820	1	FB-07	118.1	12.1	115.2	12.6	97.5	P	
F048	6/16/99	794190	836770	2	FB-07	118.1	12.1	114.8	14.9	97.2	P	
F049	6/16/99	794170	836850	2	FB-07	118.1	12.1	114.4	14.7	96.9	P	
F050	*	6/16/99	794130	2	FB-07	118.1	12.1	112.3	15.3	95.1	P	
F051	6/16/99	794040	836780	3	FB-05	119.7	12.1	116.2	14.2	97.1	P	
F052	6/16/99	793990	836740	3	FB-05	119.7	12.1	113.8	16.3	95.1	P	
F053	6/16/99	793920	836730	4	FB-05	119.7	12.1	116.2	14.8	97.1	P	
F054	6/16/99	793960	836700	4	FB-05	119.7	12.1	112.2	13.6	93.7	F Comp	Fails Compaction
F054R	6/21/99	793960	836700	4	FB-05	119.7	12.1	117.1	12.9	97.8	P	Retest
F055	6/16/99	794030	836770	4	FB-05	119.7	12.1	118.1	12.2	98.7	P	
F056	6/21/99	794110	836820	3	FB-05	119.7	12.1	115.9	12.3	96.8	P	
F057	6/21/99	794070	836800	4	FB-05	119.7	12.1	117.1	12.3	97.8	P	
F058	6/21/99	794140	836770	3	FB-05	119.7	12.1	120.5	11.0	100.7	P	
F059	6/21/99	794100	836740	4	FB-05	119.7	12.1	116.5	12.2	97.3	P	
F060	*	6/21/99	794190	3	FB-05	119.7	12.1	113.7	15.8	95.0	P	
F061	6/21/99	794290	836830	1	FB-08	119.8	12.1	114.5	14.2	95.6	P	
F062	6/21/99	794270	836890	1	FB-08	119.8	12.1	114.3	13.5	95.4	P	
F063	6/21/99	794260	836960	1	FB-08	119.8	12.1	115.6	14.9	96.5	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F064	6/21/99	794230	836850	3	FB-08	119.8	12.1	115.1	13.8	96.1	P	
F065	* 6/22/99	794000	836720	5	FB-08	119.8	12.1	119.9	11.5	100.1	P	
F066	6/22/99	794300	836820	2	FB-08	119.8	12.1	117.1	11.7	97.7	P	
F067	6/22/99	794070	836770	5	FB-08	119.8	12.1	116.9	12.4	97.6	P	
F068	6/22/99	794160	836780	5	FB-08	119.8	12.1	118.8	10.4	99.2	P	
F069	6/22/99	794300	836900	2	FB-08	119.8	12.1	113.0	13.5	94.3	F Comp	Fails Compaction
F069R	6/22/99	794300	836900	2	FB-08	119.8	12.1	114.1	12.6	95.2	P	Retest
F070	* 6/22/99	794180	836830	3	FB-08	119.8	12.1	116.8	14.1	97.5	P	
F071	6/22/99	794400	836870	1	FB-09	117.0	14.1	112.6	16.2	96.2	P	
F072	6/22/99	794340	836990	1	FB-09	117.0	14.1	114.3	14.4	97.7	P	
F073	6/22/99	794360	836880	2	FB-09	117.0	14.1	114.4	13.0	97.8	P	
F074	6/22/99	794270	836840	3	FB-09	117.0	14.1	113.5	11.8	97.0	F Moist	Fails Moisture
F074R	6/22/99	794270	836840	3	FB-09	117.0	14.1	114.1	12.9	97.5	P	Retest
F075	6/22/99	794220	836800	3	FB-09	117.0	14.1	114.7	11.3	98.0	F Moist	Fails Moisture
F075R	6/22/99	794220	836800	3	FB-09	117.0	14.1	114.7	15.1	98.0	P	Retest
F076	6/22/99	794130	836830	4	FB-09	117.0	14.1	116.6	14.7	99.7	P	
F077	6/22/99	794120	836900	3	FB-09	117.0	14.1	114.9	13.9	98.2	P	
F078	* 6/22/99	794320	836960	3	FB-09	117.0	14.1	115.0	13.4	98.3	P	
F079	6/22/99	794250	836920	3	FB-09	117.0	14.1	117.9	13.1	100.8	P	
F080	6/22/99	794330	836870	3	FB-09	117.0	14.1	112.5	13.7	96.2	P	
F081	6/23/99	794410	836860	3	FB-10	116.5	12.8	112.0	15.5	96.1	P	
F082	6/23/99	794450	836940	3	FB-10	116.5	12.8	114.2	12.3	98.0	P	
F083	6/23/99	794410	837050	2	FB-10	116.5	12.8	114.4	13.6	98.2	P	
F084	6/23/99	794480	836880	2	FB-10	116.5	12.8	114.0	14.6	97.9	P	
F085	6/23/99	794340	836850	3	FB-10	116.5	12.8	113.9	14.7	97.8	P	
F086	6/23/99	794200	836910	4	FB-10	116.5	12.8	114.3	13.1	98.1	P	
F087	6/23/99	794190	836820	4	FB-10	116.5	12.8	111.7	12.7	95.9	P	
F088	6/23/99	794220	836860	4	FB-10	116.5	12.8	119.1	12.9	102.2	P	
F089	6/23/99	794300	836900	4	FB-10	116.5	12.8	115.1	12.3	98.8	P	
F090	* 6/23/99	794290	836830	4	FB-10	116.5	12.8	113.8	15.0	97.7	P	
F091	6/23/99	794260	836890	4	FB-11	116.8	12.5	117.3	12.0	100.4	P	
F092	6/23/99	794310	836980	4	FB-11	116.8	12.5	115.7	12.4	99.1	P	
F093	6/23/99	794360	836950	4	FB-11	116.8	12.5	115.1	12.4	98.5	P	
F094	6/23/99	794260	836940	4	FB-11	116.8	12.5	115.4	13.2	98.8	P	
F095	6/23/99	794220	836790	5	FB-11	116.8	12.5	116.7	12.9	99.9	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed. Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints. See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location			Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting	Lift	Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F096	6/23/99	794290	836870	5	FB-11	116.8	12.5	114.1	12.9	97.7	P	
F097	6/23/99	794290	836960	5	FB-11	116.8	12.5	112.5	14.6	96.3	P	
F098	* 6/23/99	794370	836900	5	FB-11	116.8	12.5	117.6	12.9	100.7	P	
F099	6/25/99	794480	837020	1	FB-11	116.8	12.5	117.7	12.9	100.8	P	
F100	6/25/99	794550	836910	1	FB-11	116.8	12.5	118.3	12.9	101.3	P	
F101	6/25/99	794460	837070	2	FB-12	117.6	13.3	114.9	14.1	97.7	P	
F102	6/25/99	794550	837060	2	FB-12	117.6	13.3	115.0	13.7	97.8	P	
F103	6/25/99	794640	837000	1	FB-12	117.6	13.3	113.9	15.2	96.9	P	
F104	6/25/99	794550	837150	1	FB-12	117.6	13.3	115.2	14.5	98.0	P	
F105	6/25/99	794650	837150	1	FB-12	117.6	13.3	112.3	13.6	95.5	P	
F106	6/25/99	794780	837060	1	FB-12	117.6	13.3	116.6	12.6	99.1	P	
F107	6/25/99	794590	836980	2	FB-12	117.6	13.3	112.2	14.9	95.4	P	
F108	6/25/99	794570	837190	2	FB-12	117.6	13.3	113.6	15.1	96.6	P	
F109	6/25/99	794700	836980	2	FB-12	117.6	13.3	112.4	16.0	95.6	P	
F110	6/25/99	794720	837100	2	FB-12	117.6	13.3	114.9	14.0	97.7	P	
F111	6/25/99	794820	837150	1	FB-13	115.9	14.3	112.7	15.0	97.2	P	
F112	* 6/25/99	794650	837260	1	FB-13	115.9	14.3	116.7	13.9	100.7	P	
F113	6/25/99	794810	837270	1	FB-13	115.9	14.3	115.8	12.6	99.9	P	
F114	6/28/99	794850	837120	2	FB-13	115.9	14.3	114.0	14.6	98.4	P	
F115	6/28/99	794530	836950	3	FB-13	115.9	14.3	115.2	13.0	99.4	P	
F116	6/28/99	794470	837060	3	FB-13	115.9	14.3	113.6	14.7	98.0	P	
F117	6/28/99	794670	837260	2	FB-13	115.9	14.3	113.0	13.9	97.5	P	
F118	* 6/28/99	794810	837220	2	FB-13	115.9	14.3	112.6	13.7	97.2	P	
F119	6/28/99	794540	837090	3	FB-13	115.9	14.3	110.2	13.7	95.1	P	
F120	6/30/99	794750	837390	1	FB-13	115.9	14.3	110.3	14.0	95.2	P	
F121	6/30/99	794870	837470	1	FB-14	118.1	12.5	116.8	13.7	98.9	P	
F122	6/30/99	794910	837370	1	FB-14	118.1	12.5	113.5	17.0	96.1	P	
F123	6/30/99	794720	837330	2	FB-14	118.1	12.5	113.9	13.5	96.4	P	
F124	6/30/99	794860	837300	2	FB-14	118.1	12.5	116.4	11.6	98.6	P	
F125	7/1/99	794750	837520	1	FB-14	118.1	12.5	118.0	12.7	99.9	P	
F126	7/1/99	794900	837560	1	FB-14	118.1	12.5	113.1	13.3	95.8	P	
F127	7/1/99	794850	837470	1	FB-14	118.1	12.5	113.7	15.2	96.3	P	
F128	7/1/99	794830	837670	1	FB-14	118.1	12.5	115.8	13.3	98.1	P	
F129	7/1/99	794740	837650	1	FB-14	118.1	12.5	115.1	14.1	97.5	P	
F130	7/1/99	794860	837380	2	FB-14	118.1	12.5	113.0	14.0	95.7	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments	
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction			
								Requirements:	PM ≥ Opt. - 2	≥ 95			
F131	7/1/99	794740	837470	2	FB-15	115.8	14.6	111.0	16.7	95.9	P		
F132	7/1/99	794920	837450	2	FB-15	115.8	14.6	115.4	13.8	99.7	P		
F133	7/1/99	794760	837750	1	FB-15	115.8	14.6	117.9	13.5	101.8	P		
F134	7/1/99	794870	837730	1	FB-15	115.8	14.6	111.3	14.5	96.1	P		
F135	*	7/2/99	794760	837570	2	FB-15	115.8	14.6	114.1	14.3	98.5	P	
F136		7/2/99	794890	837530	2	FB-15	115.8	14.6	113.6	13.7	98.1	P	
F137		7/2/99	794810	837670	2	FB-15	115.8	14.6	111.4	13.7	96.2	P	
F138		7/2/99	794920	837630	2	FB-15	115.8	14.6	113.2	15.7	97.8	P	
F139		7/2/99	794860	837850	2	FB-15	115.8	14.6	116.7	13.4	100.8	P	
F140	*	7/2/99	794770	837830	2	FB-15	115.8	14.6	117.6	13.6	101.6	P	
F141		7/2/99	794720	837730	2	FB-16	119.0	13.0	116.7	12.5	98.1	P	
F142		7/2/99	794730	837710	2	FB-16	119.0	13.0	113.9	12.7	95.7	P	
F143		7/2/99	794730	837850	1	FB-16	119.0	13.0	116.9	12.0	98.2	P	
F144		7/2/99	794840	837860	1	FB-16	119.0	13.0	111.6	14.6	93.8	F Comp	Fails Compaction
F144R		7/13/99	794840	837860	1	FB-16	119.0	13.0	113.9	12.6	95.7	P	Retest
F145		7/2/99	794910	837930	1	FB-16	119.0	13.0	117.5	12.7	98.7	P	
F146		7/2/99	794940	838050	1	FB-16	119.0	13.0	112.0	14.2	94.1	F Comp	Fails Compaction
F146R		7/13/99	794940	838050	1	FB-16	119.0	13.0	115.0	12.5	96.6	P	Retest
F147		7/2/99	794820	838070	1	FB-16	119.0	13.0	114.1	11.1	95.9	P	
F148		7/2/99	794720	838020	1	FB-16	119.0	13.0	114.1	10.3	95.9	F Moist	Fails Moisture
F148R		7/13/99	794720	838020	1	FB-16	119.0	13.0	118.0	13.0	99.2	P	Retest
F149	*	7/6/99	794730	838050	2	FB-16	119.0	13.0	113.0	11.1	95.0	P	
F150		7/6/99	794830	838050	2	FB-16	119.0	13.0	110.5	13.5	92.9	F Comp	Fails Compaction
F150R	*	7/6/99	794830	838050	2	FB-16	119.0	13.0	115.3	10.2	96.9	F Moist	Retest Fails Moisture
F150R1		7/13/99	794830	838050	2	FB-16	119.0	13.0	120.7	11.2	101.4	P	Second Retest Passes
F151		7/6/99	794860	837930	1	FB-17	119.0	12.6	113.3	13.1	95.2	P	
F152		7/6/99	794730	837930	1	FB-17	119.0	12.6	114.5	14.4	96.2	P	
F153		7/6/99	794900	837940	1	FB-17	119.0	12.6	114.0	13.6	95.8	P	
F154		7/6/99	794900	838150	1	FB-17	119.0	12.6	117.2	13.8	98.5	P	
F155		7/6/99	794750	838130	1	FB-17	119.0	12.6	114.0	15.1	95.8	P	
F156		7/6/99	794740	838230	1	FB-17	119.0	12.6	117.1	12.6	98.4	P	
F157		7/6/99	794820	838230	1	FB-17	119.0	12.6	114.8	12.8	96.5	P	
F158		7/6/99	794720	838350	2	FB-17	119.0	12.6	115.7	13.8	97.2	P	
F159		7/6/99	794830	838370	1	FB-17	119.0	12.6	115.1	13.8	96.7	P	
F160		7/6/99	794810	837920	1	FB-17	119.0	12.6	114.4	13.2	96.1	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments	
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction			
								Requirements:	PM ≥ Opt. - 2	≥ 95			
F161	7/6/99	794600	836970	3	FB-04	113.9	14.5	109.6	15.6	96.2	P		
F162	7/6/99	794520	837110	3	FB-04	113.9	14.5	109.4	16.3	96.0	P		
F163	7/6/99	794690	8378020	3	FB-04	113.9	14.5	111.4	18.1	97.8	P		
F164	7/6/99	794570	8378170	3	FB-04	113.9	14.5	113.7	14.1	99.8	P		
F165	7/6/99	794720	8378120	3	FB-04	113.9	14.5	110.6	16.1	97.1	P		
F165D	7/7/99	794760	837020	3	FB-04	113.9	14.5	115.0	15.2	101.0	P	Field test number duplicated.	
F166	7/7/99	794590	837230	3	FB-04	113.9	14.5	111.0	17.8	97.5	P		
F167	7/7/99	794790	837190	3	FB-04	113.9	14.5	110.7	17.0	97.2	P		
F168	*	7/7/99	794670	837280	3	FB-04	113.9	14.5	109.8	16.2	96.4	P	
F169	7/7/99	794760	837330	3	FB-04	113.9	14.5	109.9	15.7	96.5	P		
F170	7/7/99	794900	837260	3	FB-04	113.9	14.5	111.6	13.0	98.0	P		
F171	7/7/99	794800	838330	2	FB-19	116.7	12.2	119.6	12.0	102.5	P		
F172	7/7/99	794670	838340	2	FB-19	116.7	12.2	110.2	15.7	94.4	F Comp	Fails Compaction	
F172R	7/7/99	794670	838340	2	FB-19	116.7	12.2	114.2	13.6	97.9	P	Retest	
F173	7/7/99	794710	838220	2	FB-19	116.7	12.2	113.9	11.5	97.6	P		
F174	7/7/99	794810	838280	2	FB-19	116.7	12.2	114.8	12.4	98.4	P		
F175	7/7/99	794900	838180	2	FB-19	116.7	12.2	111.1	14.5	95.2	P		
F176	7/7/99	794810	838100	2	FB-19	116.7	12.2	111.4	11.9	95.5	P		
F177	7/7/99	794720	838150	2	FB-19	116.7	12.2	113.7	13.5	97.4	P		
F178	7/7/99	794840	838250	3	FB-19	116.7	12.2	115.3	13.0	98.8	P		
F179	7/7/99	794730	838240	3	FB-19	116.7	12.2	114.5	13.7	98.1	P		
F180	*	7/7/99	794850	838140	3	FB-19	116.7	12.2	119.3	11.8	102.2	P	
F181	7/7/99	794730	838090	3	FB-18	118.7	12.3	115.8	11.3	97.6	P		
F182	7/7/99	794780	838030	3	FB-18	118.7	12.3	113.3	12.3	95.5	P		
F183	7/7/99	794920	838040	3	FB-18	118.7	12.3	113.6	13.6	95.7	P		
F184	7/7/99	794850	837940	3	FB-18	118.7	12.3	117.2	11.5	98.7	P		
F185	7/7/99	794740	837930	3	FB-18	118.7	12.3	114.7	12.5	96.6	P		
F186	7/7/99	794890	837850	3	FB-18	118.7	12.3	113.2	10.8	95.4	P		
F187	7/7/99	794760	837740	3	FB-18	118.7	12.3	114.1	12.5	96.1	P		
F188	7/7/99	794820	837820	3	FB-18	118.7	12.3	110.7	13.3	93.3	F Comp	Fails Compaction	
F188R	7/8/99	794820	837820	3	FB-18	118.7	12.3	116.2	12.0	97.9	P	Retest	
F189	7/7/99	794910	837660	3	FB-18	118.7	12.3	111.4	12.3	93.9	F Comp	Fails Compaction	
F189R	7/8/99	794910	837660	3	FB-18	118.7	12.3	115.9	11.5	97.6	P	Retest	
F190	7/7/99	794760	837650	3	FB-18	118.7	12.3	113.7	11.1	95.8	P		
F191	*	7/9/99	794550	838800	1	FB-20	118.0	13.0	115.2	12.6	97.6	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

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 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F192	7/9/99	794670	838810	1	FB-20	118.0	13.0	114.5	11.0	97.0	P	
F193	7/9/99	794700	838920	1	FB-20	118.0	13.0	112.4	12.8	95.3	P	
F194	7/9/99	794590	838900	1	FB-20	118.0	13.0	114.4	12.2	96.9	P	
F195	7/9/99	794520	839010	1	FB-20	118.0	13.0	117.6	11.4	99.7	P	
F196	7/9/99	794630	839020	1	FB-20	118.0	13.0	116.8	10.9	99.0	F Moist	Fails Moisture - No Retest (only .1% off)
F197	7/12/99	794710	838720	1	FB-20	118.0	13.0	114.0	13.0	96.6	P	
F198	7/12/99	794580	838710	1	FB-20	118.0	13.0	113.1	11.2	95.8	P	
F199	7/12/99	794600	838600	2	FB-20	118.0	13.0	112.1	11.7	95.0	P	
F200	7/12/99	794750	838630	2	FB-20	118.0	13.0	114.8	14.4	97.3	P	
F201	* 7/12/99	794740	838530	2	FB-21	117.8	12.0	112.8	14.5	95.8	P	
F202	7/12/99	794600	838520	2	FB-21	117.8	12.0	114.1	11.9	96.9	P	
F203	7/12/99	794670	838400	2	FB-21	117.8	12.0	114.9	13.1	97.5	P	
F204	7/12/99	794810	838450	2	FB-21	117.8	12.0	112.5	12.3	95.5	P	
F205	7/12/99	794740	838380	2	FB-21	117.8	12.0	110.1	14.3	93.5	F Comp	Fails Compaction
F205R	7/13/99	794740	838380	2	FB-21	117.8	12.0	113.5	11.5	96.3	P	Retest
F206	7/12/99	794830	838370	3	FB-21	117.8	12.0	110.5	12.4	93.8	F Comp	Fails Compaction
F206R	7/13/99	794830	838370	3	FB-21	117.8	12.0	114.3	10.1	97.0	P	Retest
F207	7/12/99	794760	838310	4	FB-21	117.8	12.0	114.0	12.4	96.8	P	
F208	7/12/99	794680	838340	4	FB-21	117.8	12.0	112.0	11.5	95.1	P	
F209	7/12/99	794850	838230	4	FB-21	117.8	12.0	113.5	8.8	96.3	F Moist	Fails Moisture
F209R	7/12/99	794850	838230	4	FB-21	117.8	12.0	113.7	11.8	96.5	P	Retest
F210	* 7/12/99	794730	838160	4	FB-21	117.8	12.0	113.4	8.1	96.3	F Moist	Fails Moisture
F210R	7/12/99	794730	838160	4	FB-21	117.8	12.0	112.1	10.5	95.2	P	Retest
F211	7/12/99	794890	838130	4	FB-22	116.8	12.2	112.8	15.0	96.6	P	
F212	7/12/99	794920	838030	4	FB-22	116.8	12.2	111.7	10.7	95.6	P	
F213	7/12/99	794760	838040	4	FB-22	116.8	12.2	111.5	16.1	95.5	P	
F214	7/12/99	794800	837940	4	FB-22	116.8	12.2	111.5	10.6	95.5	P	
F215	7/13/99	794680	838820	1	FB-22	116.8	12.2	113.8	12.3	97.4	P	
F216	7/13/99	794570	838820	1	FB-22	116.8	12.2	112.5	9.9	96.3	F Moist	Fails Moisture
F216R	7/13/99	794570	838820	1	FB-22	116.8	12.2	111.1	14.4	95.1	P	Retest
F217	7/13/99	794560	838930	1	FB-22	116.8	12.2	113.1	11.3	96.8	P	
F218	7/13/99	794670	838740	2	FB-22	116.8	12.2	110.9	11.1	94.9	F Comp	Fails Compaction
F218R	7/13/99	794670	838740	2	FB-22	116.8	12.2	111.5	14.1	95.5	P	Retest
F219	7/13/99	794580	838790	2	FB-22	116.8	12.2	110.0	11.3	94.2	F Comp	Fails Compaction
F219R	7/13/99	794580	838790	2	FB-22	116.8	12.2	114.5	13.0	98.0	P	Retest

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location			Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments	
		Northing	Easting	Lift	Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction			
								Requirements:	PM ≥ Opt. - 2	≥ 95			
F220	*	7/13/99	794620	838920	2	FB-22	116.8	12.2	113.6	11.1	97.3	P	
F221		7/13/99	794690	838940	2	FB-23	118.8	12.5	113.2	12.7	95.3	P	
F222		7/13/99	794730	838810	2	FB-23	118.8	12.5	113.5	10.8	95.5	P	
F223		7/13/99	794520	839000	1	FB-23	118.8	12.5	115.4	10.9	97.1	P	
F224		7/13/99	794650	839040	1	FB-23	118.8	12.5	117.5	13.5	98.9	P	
F225		7/14/99	794540	838880	2	FB-23	118.8	12.5	119.4	11.0	100.5	P	
F226		7/14/99	794640	839010	2	FB-23	118.8	12.5	114.2	12.7	96.1	P	
F227	*	7/14/99	794540	838980	2	FB-23	118.8	12.5	119.1	10.7	100.3	P	
F228		7/14/99	794500	839090	1	FB-23	118.8	12.5	119.1	13.8	100.3	P	
F229		7/14/99	794600	839090	1	FB-23	118.8	12.5	114.8	13.8	96.6	P	
F230		7/14/99	794580	838800	3	FB-23	118.8	12.5	114.5	13.8	96.4	P	
F231		7/14/99	794680	838850	3	FB-24	120.0	12.0	114.8	13.6	95.7	P	
F232		7/14/99	794720	838760	3	FB-24	120.0	12.0	115.8	11.1	96.5	P	
F233		7/14/99	794600	838740	3	FB-24	120.0	12.0	116.8	12.1	97.3	P	
F234		7/14/99	794610	839220	1	FB-24	120.0	12.0	118.2	12.7	98.5	P	
F235		7/14/99	794470	839180	1	FB-24	120.0	12.0	113.3	13.1	94.4	F Comp	Fails Compaction
F235R		7/15/99	794470	839180	1	FB-24	120.0	12.0	115.2	14.6	96.0	P	Retest
F236		7/14/99	794530	839080	2	FB-24	120.0	12.0	123.2	10.4	102.7	P	
F237		7/14/99	794650	839140	2	FB-24	120.0	12.0	117.8	14.4	98.2	P	
F238		7/15/99	794420	837030	4	FB-24	120.0	12.0	115.1	12.5	95.9	P	
F239		7/15/99	794500	836900	4	FB-24	120.0	12.0	114.0	11.5	95.0	P	
F240		7/15/99	794560	839220	2	FB-24	120.0	12.0	119.3	10.1	99.4	P	
F241		7/15/99	794510	839170	2	FB-25	119.0	12.5	115.1	11.4	96.7	P	
F242		7/15/99	794720	838750	3	FB-25	119.0	12.5	116.8	12.4	98.2	P	
F243		7/15/99	794620	838700	3	FB-25	119.0	12.5	115.1	14.0	96.7	P	
F244		7/15/99	794710	838660	3	FB-25	119.0	12.5	113.4	12.4	95.3	P	
F245	*	7/15/99	794540	837000	4	FB-25	119.0	12.5	114.9	13.8	96.6	P	
F246		7/15/99	794490	837100	4	FB-25	119.0	12.5	113.4	13.3	95.3	P	
F247		7/15/99	794560	837140	4	FB-25	119.0	12.5	115.2	14.5	96.8	P	
F248		7/15/99	794700	837000	4	FB-25	119.0	12.5	113.2	13.5	95.1	P	
F249		7/15/99	794600	837230	4	FB-25	119.0	12.5	116.7	14.8	98.1	P	
F250	*	7/15/99	794670	837140	4	FB-25	119.0	12.5	113.9	14.2	95.7	P	
F251		7/15/99	794800	837120	4	FB-26	118.9	12.0	115.6	12.1	97.2	P	
F252		7/15/99	794680	837250	4	FB-26	118.9	12.0	114.2	13.0	96.0	P	
F253		7/15/99	794770	837230	4	FB-26	118.9	12.0	115.0	11.1	96.7	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F254	7/15/99	794600	839290	1	FB-26	118.9	12.0	113.1	11.4	95.1	P	
F255	7/15/99	794500	839280	1	FB-26	118.9	12.0	117.5	11.2	98.8	P	
F256	7/15/99	794430	839230	1	FB-26	118.9	12.0	122.0	11.5	102.6	P	
F257	7/16/99	794870	837740	4	FB-26	118.9	12.0	120.4	10.8	101.3	P	
F258	7/16/99	794840	837900	3	FB-26	118.9	12.0	114.3	11.7	96.1	P	
F259	7/16/99	794540	839280	2	FB-26	118.9	12.0	117.5	12.4	98.8	P	
F260	7/16/99	794460	839230	2	FB-26	118.9	12.0	114.1	11.0	96.0	P	
F261	*	7/16/99	794510	5	FB-27	117.8	12.7	118.2	12.1	100.3	P	
F262	7/16/99	794450	837020	5	FB-27	117.8	12.7	117.3	12.9	99.6	P	
F263	7/16/99	794420	839330	1	FB-27	117.8	12.7	116.5	10.8	98.9	P	
F264	7/16/99	794540	839400	1	FB-27	117.8	12.7	113.7	11.7	96.5	P	
F265	7/16/99	794590	837000	5	FB-27	117.8	12.7	113.6	15.2	96.4	P	
F266	7/16/99	794520	837130	5	FB-27	117.8	12.7	114.8	15.7	97.5	P	
F267	7/16/99	794600	837140	5	FB-27	117.8	12.7	115.8	13.5	98.3	P	
F268	7/16/99	794640	837070	5	FB-27	117.8	12.7	114.2	11.6	96.9	P	
F269	7/20/99	794540	839010	3	FB-27	117.8	12.7	114.5	13.7	97.2	P	
F270	7/20/99	794630	838580	3	FB-27	117.8	12.7	116.2	14.1	98.6	P	
F271	*	7/20/99	794570	2	FB-28	116.4	13.4	118.0	12.8	101.4	P	
F272	7/20/99	794450	839350	2	FB-28	116.4	13.4	115.0	13.2	98.8	P	
F273	7/20/99	794500	839470	1	FB-28	116.4	13.4	112.5	13.9	96.6	P	
F274	7/20/99	794360	839410	1	FB-28	116.4	13.4	111.8	14.1	96.0	P	
F275	7/20/99	794360	839480	1	FB-28	116.4	13.4	117.7	12.2	101.1	P	
F276	7/20/99	794460	839560	1	FB-28	116.4	13.4	118.5	13.8	101.8	P	
F277	7/20/99	794470	839660	1	FB-28	116.4	13.4	112.2	12.8	96.4	P	
F278	*	7/20/99	794390	2	FB-28	116.4	13.4	114.7	14.2	98.5	P	
F279	7/20/99	794530	839530	2	FB-28	116.4	13.4	110.9	14.8	95.3	P	
F280	7/21/99	794470	839170	3	FB-28	116.4	13.4	113.2	16.0	97.3	P	
F281	7/21/99	794600	839210	3	FB-30	118.5	13.0	114.7	15.1	96.8	P	
F282	7/22/99	794720	837100	5	FB-30	118.5	13.0	116.4	11.3	98.2	P	
F283	7/22/99	794650	837230	5	FB-30	118.5	13.0	114.4	14.5	96.5	P	
F284	7/22/99	794840	837170	5	FB-30	118.5	13.0	114.6	13.6	96.7	P	
F285	7/22/99	794780	837320	4	FB-30	118.5	13.0	113.4	14.7	95.7	P	
F286	7/22/99	794730	837390	3	FB-30	118.5	13.0	115.9	14.1	97.8	P	
F287	7/22/99	794800	837260	5	FB-30	118.5	13.0	112.7	14.8	95.1	P	
F288	7/22/99	794700	837350	4	FB-30	118.5	13.0	115.2	13.8	97.2	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed. Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints. See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F289	7/22/99	794900	837360	4	FB-30	118.5	13.0	118.1	13.3	99.7	P	
F290	7/22/99	794780	837410	4	FB-30	118.5	13.0	113.7	15.6	95.9	P	
F291	* 7/22/99	794930	837470	3	FB-31	119.1	12.7	114.7	13.9	96.3	P	
F292	7/23/99	794760	837520	3	FB-31	119.1	12.7	114.5	14.7	96.1	P	
F293	7/23/99	794880	837460	4	FB-31	119.1	12.7	119.3	12.3	100.2	P	
F294	7/23/99	794890	837550	3	FB-31	119.1	12.7	113.8	14.4	95.5	P	
F295	7/23/99	794770	837490	4	FB-31	119.1	12.7	114.2	16.2	95.9	P	
F296	7/23/99	794820	837400	5	FB-31	119.1	12.7	113.6	13.4	95.4	P	
F297	7/23/99	794400	839620	1	FB-31	119.1	12.7	114.6	10.9	96.2	P	
F298	7/23/99	794300	839540	1	FB-31	119.1	12.7	114.0	11.9	95.7	P	
F299	7/23/99	794920	837490	5	FB-31	119.1	12.7	113.9	15.7	95.6	P	
F300	7/23/99	794800	837560	4	FB-31	119.1	12.7	116.2	12.4	97.6	P	
F301	7/23/99	794270	839610	1	FB-32	119.5	11.4	116.5	13.8	97.5	P	
F302	7/23/99	794390	839730	1	FB-32	119.5	11.4	114.9	13.6	96.2	P	
F303	7/23/99	794450	839770	1	FB-32	119.5	11.4	112.7	13.4	94.3	F Comp	Fails Compaction
F303R	* 7/26/99	794450	839770	1	FB-32	119.5	11.4	114.3	14.2	95.6	P	Retest
F304	7/23/99	794470	839250	3	FB-32	119.5	11.4	114.4	11.6	95.7	P	
F305	7/28/99	794580	839310	3	FB-32	119.5	11.4	118.6	12.3	99.2	P	
F306	7/28/99	794520	839400	3	FB-32	119.5	11.4	113.8	13.2	95.2	P	
F307	7/28/99	794380	839340	3	FB-32	119.5	11.4	115.1	14.3	96.3	P	
F308	7/28/99	794440	839390	3	FB-32	119.5	11.4	113.1	11.5	94.6	F Comp	Fails Compaction
F308R	7/28/99	794440	839390	3	FB-32	119.5	11.4	113.6	14.3	95.1	P	Retest
F309	7/28/99	794520	839480	3	FB-32	119.5	11.4	115.5	11.9	96.7	P	
F310	* 7/28/99	794420	839440	3	FB-32	119.5	11.4	115.3	12.0	96.5	P	
F311	7/28/99	794420	839520	2	FB-33	117.8	11.6	117.0	12.4	99.3	P	
F312	7/28/99	794510	839600	2	FB-33	117.8	11.6	114.2	13.9	96.9	P	
F313	7/28/99	794420	839630	2	FB-33	117.8	11.6	114.1	12.0	96.9	P	
F314	7/28/99	794340	839560	2	FB-33	117.8	11.6	113.6	13.7	96.4	P	
F315	7/28/99	794380	839830	1	FB-33	117.8	11.6	115.1	13.3	97.7	P	
F316	7/28/99	794240	839700	1	FB-33	117.8	11.6	118.0	11.5	100.2	P	
F317	7/28/99	794300	839860	1	FB-33	117.8	11.6	110.9	14.4	94.1	F Comp	Fails Compaction
F317R	7/28/99	794300	839860	1	FB-33	117.8	11.6	118.5	11.9	100.6	P	Retest
F318	7/28/99	794220	839780	1	FB-33	117.8	11.6	114.3	11.6	97.0	P	
F319	7/28/99	794150	839660	1	FB-33	117.8	11.6	117.4	13.9	99.7	P	
F320	7/28/99	794260	839960	1	FB-33	117.8	11.6	115.4	13.1	98.0	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed. Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints. See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F321	7/28/99	794180	839840	1	FB-34	117.1	13.8	114.2	14.0	97.5	P	
F322	* 7/28/99	794340	839770	2	FB-34	117.1	13.8	111.9	13.0	95.6	P	
F323	7/28/99	794150	839920	1	FB-34	117.1	13.8	115.8	14.7	98.9	P	
F324	7/28/99	794230	839900	2	FB-34	117.1	13.8	113.2	14.7	96.7	P	
F325	7/28/99	794140	839750	2	FB-34	117.1	13.8	111.9	13.9	95.6	P	
F326	7/28/99	794120	839670	2	FB-34	117.1	13.8	116.1	14.3	99.1	P	
F327	7/28/99	794160	840000	1	FB-34	117.1	13.8	116.8	12.0	99.7	P	
F328	7/28/99	794090	839770	1	FB-34	117.1	13.8	115.4	12.9	98.5	P	
F329	7/28/99	794340	839780	2	FB-29	115.0	14.0	113.1	13.2	98.3	P	
F330	7/28/99	794460	839740	2	FB-29	115.0	14.0	112.7	15.1	98.0	P	
F331	7/28/99	794230	839580	2	FB-29	115.0	14.0	112.7	13.4	98.0	P	
F332	7/28/99	794280	839760	2	FB-29	115.0	14.0	109.4	15.2	95.1	P	
F333	* 7/29/99	794570	838900	3	FB-29	115.0	14.0	112.3	13.5	97.7	P	
F334	7/29/99	794680	838910	3	FB-29	115.0	14.0	111.2	12.3	96.7	P	
F335	8/2/99	794100	839740	2	FB-29	115.0	14.0	114.8	16.0	99.8	P	
F336	8/2/99	794150	839850	2	FB-29	115.0	14.0	117.4	12.1	102.1	P	
F337	8/2/99	794170	839970	2	FB-29	115.0	14.0	110.3	12.8	95.9	P	
F338	8/2/99	794770	837650	4	FB-29	115.0	14.0	111.2	14.6	96.7	P	
F339	8/2/99	794760	837740	4	FB-29	115.0	14.0	110.3	13.6	95.9	P	
F340	* 8/2/99	794910	837680	4	FB-29	115.0	14.0	112.4	13.0	97.7	P	
F341	8/2/99	794860	837750	4	FB-35	115.8	12.9	113.7	12.7	98.2	P	
F342	8/2/99	794840	837840	4	FB-35	115.8	12.9	113.3	14.0	97.8	P	
F343	8/3/99	794750	837860	4	FB-35	115.8	12.9	115.5	12.7	99.7	P	
F344	8/3/99	794820	838050	4	FB-35	115.8	12.9	115.4	14.2	99.7	P	
F345	8/3/99	794900	837960	4	FB-35	115.8	12.9	112.0	12.9	96.7	P	
F346	8/3/99	794850	838160	4	FB-35	115.8	12.9	107.2	15.1	92.6	F Comp	Fails Compaction
F346R	8/3/99	794850	838160	4	FB-35	115.8	12.9	110.8	14.4	95.7	P	Retest
F347	8/3/99	794780	838230	4	FB-35	115.8	12.9	110.1	12.7	95.1	P	
F348	8/3/99	794700	838260	4	FB-35	115.8	12.9	112.3	14.5	97.0	P	
F349	* 8/3/99	794830	838320	4	FB-35	115.8	12.9	104.6	12.2	90.3	F Comp	Fails Compaction
F349R	8/3/99	794830	838320	4	FB-35	115.8	12.9	113.1	12.9	97.7	P	Retest
F350	8/3/99	794030	839750	1	FB-35	115.8	12.9	113.3	15.0	97.8	P	
F351	8/3/99	794070	839950	1	FB-36	116.3	13.5	114.6	13.8	98.5	P	
F352	8/3/99	793980	840010	1	FB-36	116.3	13.5	115.9	12.9	99.7	P	
F353	* 8/3/99	793970	839900	1	FB-36	116.3	13.5	115.0	13.7	98.9	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed. Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints. See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments	
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction			
								Requirements:	PM ≥ Opt. - 2	≥ 95			
F354	8/3/99	793970	839800	1	FB-36	116.3	13.5	113.5	15.4	97.6	P		
F355	8/3/99	794040	839800	2	FB-36	116.3	13.5	116.3	13.2	100.0	P		
F356	8/3/99	794090	840000	2	FB-36	116.3	13.5	117.5	12.8	101.0	P		
F357	8/3/99	794030	839870	2	FB-36	116.3	13.5	112.5	16.3	96.7	P		
F358	8/3/99	793980	839950	2	FB-36	116.3	13.5	113.7	13.6	97.8	P		
F359	8/3/99	793920	839880	2	FB-36	116.3	13.5	116.1	14.4	99.8	P		
F360	*	8/3/99	793940	839840	2	FB-36	116.3	13.5	115.9	14.2	99.7	P	
F361	8/3/99	793850	839830	1	FB-37	115.6	13.8	114.6	15.1	99.1	P		
F362	8/3/99	793880	840020	1	FB-37	115.6	13.8	114.0	15.3	98.6	P		
F363	8/4/99	793980	839970	2	FB-37	115.6	13.8	113.8	15.3	98.4	P		
F364	8/4/99	793970	839870	2	FB-37	115.6	13.8	114.0	15.2	98.6	P		
F365	8/4/99	793780	839920	1	FB-37	115.6	13.8	111.7	14.4	96.6	P		
F366	8/4/99	793790	840030	1	FB-37	115.6	13.8	117.9	13.5	102.0	P		
F367	8/4/99	793660	839860	1	FB-37	115.6	13.8	115.9	14.7	100.3	P		
F368	8/4/99	793700	839930	1	FB-37	115.6	13.8	113.2	15.3	97.9	P		
F369	8/4/99	793690	840040	1	FB-37	115.6	13.8	115.5	14.4	99.9	P		
F370	*	8/4/99	793600	839930	1	FB-37	115.6	13.8	114.0	16.2	98.6	P	
F371	8/4/99	793770	839860	2	FB-38	117.6	13.0	112.0	17.4	95.2	P		
F372	8/4/99	793770	839980	2	FB-38	117.6	13.0	117.2	12.8	99.7	P		
F373	8/4/99	793720	840060	2	FB-38	117.6	13.0	114.2	15.3	97.1	P		
F374	8/4/99	793650	839960	2	FB-38	117.6	13.0	114.1	14.1	97.0	P		
F375	8/4/99	794370	839820	3	FB-38	117.6	13.0	119.5	11.7	101.6	P		
F376	8/4/99	794250	839700	3	FB-38	117.6	13.0	115.8	13.1	98.5	P		
F377	8/4/99	794180	839690	3	FB-38	117.6	13.0	115.9	12.7	98.6	P		
F378	8/4/99	794280	839840	3	FB-38	117.6	13.0	113.5	14.1	96.5	P		
F379	8/4/99	794250	839940	3	FB-38	117.6	13.0	111.7	14.1	95.0	P		
F380	8/4/99	794160	839780	3	FB-38	117.6	13.0	110.2	18.1	93.7	F Comp	Fails Compaction	
F380R	8/5/99	794160	839780	3	FB-38	117.6	13.0	117.7	12.1	100.1	P	Retest	
F381	*	8/4/99	794080	839810	3	FB-39	118.2	13.1	117.3	11.3	99.2	P	
F382	8/4/99	794080	839930	3	FB-39	118.2	13.1	117.6	12.7	99.5	P		
F383	8/5/99	793920	839800	3	FB-39	118.2	13.1	116.7	12.5	98.7	P		
F384	8/5/99	793950	839880	3	FB-39	118.2	13.1	116.1	12.8	98.2	P		
F385	8/5/99	793970	840010	3	FB-39	118.2	13.1	107.9	14.0	91.3	F Comp	Fails Compaction	
F385R	8/5/99	793970	840010	3	FB-39	118.2	13.1	116.2	11.7	98.3	P	Retest	
F386	8/5/99	793870	840000	3	FB-39	118.2	13.1	113.3	13.2	95.9	P		

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed. Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints. See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location			Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments	
		Northing	Easting	Lift	Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction			
								Requirements:	PM ≥ Opt. - 2	≥ 95			
F387	8/5/99	793850	839850	3	FB-39	118.2	13.1	114.1	13.1	96.5	P		
F388	8/5/99	793670	839920	3	FB-39	118.2	13.1	114.1	11.3	96.5	P		
F389	8/5/99	793700	840050	3	FB-39	118.2	13.1	115.6	11.9	97.8	P		
F390	*	8/5/99	793770	839880	3	FB-39	118.2	13.1	117.1	13.3	99.1	P	
F391	8/5/99	793770	839970	3	FB-40	116.3	13.0	116.7	12.3	100.3	P		
F392	8/5/99	793580	840000	1	FB-40	116.3	13.0	114.4	12.1	98.4	P		
F393	8/5/99	793550	839830	1	FB-40	116.3	13.0	114.7	12.3	98.6	P		
F394	8/5/99	793620	839850	2	FB-40	116.3	13.0	114.0	14.1	98.0	P		
F395	8/5/99	793570	839950	2	FB-40	116.3	13.0	112.3	13.6	96.6	P		
F396	8/5/99	793530	839860	2	FB-40	116.3	13.0	115.0	13.9	98.9	P		
F397	8/5/99	793470	839830	1	FB-40	116.3	13.0	112.1	14.2	96.4	P		
F398	8/5/99	793480	839950	1	FB-40	116.3	13.0	114.2	13.4	98.2	P		
F399	8/5/99	793410	839810	1	FB-40	116.3	13.0	112.2	13.5	96.5	P		
F400	8/5/99	794720	837800	5	FB-40	116.3	13.0	115.9	12.1	99.7	P		
F401	*	8/5/99	794680	838440	3	FB-41	116.9	12.2	112.2	10.9	96.0	P	
F402	8/5/99	794720	838460	3	FB-41	116.9	12.2	109.2	11.6	93.4	F Comp	Fails Compaction	
F402R	8/9/99	794720	838460	3	FB-41	116.9	12.2	115.2	13.3	98.5	P	Retest	
F403	8/5/99	793420	839800	1	FB-41	116.9	12.2	111.3	13.4	95.2	P		
F404	8/5/99	793580	839890	3	FB-41	116.9	12.2	111.9	14.3	95.7	P		
F405	8/5/99	793600	839970	3	FB-41	116.9	12.2	114.6	13.8	98.0	P		
F406	8/5/99	793510	839980	2	FB-41	116.9	12.2	111.7	10.9	95.6	P		
F407	8/5/99	793500	839890	2	FB-41	116.9	12.2	114.4	12.5	97.9	P		
F408	8/5/99	793410	839840	2	FB-41	116.9	12.2	112.0	16.0	95.8	P		
F409	8/5/99	793420	839940	2	FB-41	116.9	12.2	112.7	12.0	96.4	P		
F410	*	8/6/99	794230	839700	4	FB-41	116.9	12.2	115.4	14.3	98.7	P	
F411	8/6/99	794120	839900	4	FB-42	117.3	12.4	112.9	15.8	96.2	P		
F412	8/9/99	793510	839970	3	FB-42	117.3	12.4	116.6	13.2	99.4	P		
F413	8/9/99	793500	839870	3	FB-42	117.3	12.4	116.0	11.8	98.9	P		
F414	8/9/99	794700	838550	3	FB-42	117.3	12.4	112.8	13.7	96.2	P		
F415	8/9/99	794670	838640	3	FB-42	117.3	12.4	116.0	13.4	98.9	P		
F416	8/9/99	794130	839700	3	FB-42	117.3	12.4	112.2	12.7	95.7	P		
F417	8/9/99	794240	839910	3	FB-43	116.8	13.2	114.0	14.7	97.6	P		
F418	*	8/9/99	794600	838540	4	FB-43	116.8	13.2	112.6	14.3	96.4	P	
F419	8/9/99	794750	838660	4	FB-43	116.8	13.2	117.4	12.7	100.5	P		
F420	8/9/99	794680	838820	4	FB-43	116.8	13.2	113.9	12.4	97.5	P		

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments	
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction			
								Requirements:	PM ≥ Opt. - 2	≥ 95			
F421	8/9/99	794600	838910	4	FB-43	116.8	13.2	116.0	14.0	99.3	P		
F422	8/9/99	794600	839020	4	FB-43	116.8	13.2	111.7	12.6	95.6	P		
F423	8/9/99	794530	839100	4	FB-43	116.8	13.2	112.1	11.7	96.0	P		
F424	8/9/99	794090	839750	4	FB-43	116.8	13.2	111.5	15.2	95.5	P		
F425	8/9/99	794160	839960	4	FB-43	116.8	13.2	112.1	15.2	96.0	P		
F426	8/9/99	794060	839970	4	FB-43	116.8	13.2	115.7	12.7	99.1	P		
F427	8/9/99	794660	838910	4	FB-44	117.1	11.4	111.7	12.2	95.4	P		
F428	8/9/99	794030	839830	4	FB-44	117.1	11.4	110.4	13.8	94.3	F Comp	Fails Compaction	
F428R	8/11/99	794030	839830	4	FB-44	117.1	11.4	116.5	11.8	99.5	P	Retest	
F429	*	8/9/99	793950	839820	4	FB-44	117.1	11.4	109.1	12.7	93.2	F Comp	Fails Compaction
F429R	8/11/99	793950	839820	4	FB-44	117.1	11.4	113.9	13.5	97.3	P	Retest	
F430	8/9/99	793870	839890	4	FB-44	117.1	11.4	114.1	14.4	97.4	P		
F431	8/9/99	793760	839930	4	FB-44	117.1	11.4	109.0	11.6	93.1	F Comp	Fails Compaction	
F431R	8/11/99	793760	839930	4	FB-44	117.1	11.4	116.8	11.8	99.7	P	Retest	
F432	8/9/99	793670	839870	4	FB-44	117.1	11.4	113.1	14.4	96.6	P		
F433	8/9/99	793600	839900	4	FB-44	117.1	11.4	113.3	11.1	96.8	P		
F434	8/9/99	793520	839830	4	FB-44	117.1	11.4	111.3	12.8	95.0	P		
F435	8/9/99	794730	837440	4	FB-44	117.1	11.4	114.4	15.3	97.7	P		
F436	*	8/9/99	794700	838370	4	FB-44	117.1	11.4	113.4	15.4	96.8	P	
F437	8/9/99	794640	838450	4	FB-45	117.9	13.5	112.9	16.3	95.8	P		
F438	8/9/99	794660	838540	4	FB-45	117.9	13.5	113.0	15.4	95.8	P		
F439	8/9/99	793970	839970	4	FB-45	117.9	13.5	114.7	12.2	97.3	P		
F440	8/9/99	793880	839950	4	FB-45	117.9	13.5	113.5	11.5	96.3	P		
F441	8/9/99	793800	840030	4	FB-45	117.9	13.5	109.9	17.2	93.2	F Comp	Fails Compaction	
F441R	8/11/99	793800	840030	4	FB-45	117.9	13.5	114.1	11.5	96.8	P	Retest	
F442	8/9/99	793680	839980	4	FB-45	117.9	13.5	112.3	13.2	95.3	P		
F443	8/9/99	793590	840000	4	FB-45	117.9	13.5	109.8	13.5	93.1	F Comp	Fails Compaction	
F443R	8/11/99	793590	840000	4	FB-45	117.9	13.5	115.0	12.2	97.5	P	Retest	
F444	8/9/99	793392	839890	1	FB-45	117.9	13.5	112.7	13.8	95.6	P		
F445	8/9/99	793320	839780	1	FB-45	117.9	13.5	112.0	13.3	95.0	P		
F446	*	8/10/99	794600	838620	4	FB-45	117.9	13.5	115.7	12.1	98.1	P	
F447	8/10/99	794540	839000	4	FB-46	117.3	12.9	112.4	13.3	95.8	P		
F448	8/10/99	794650	839100	4	FB-46	117.3	12.9	116.2	12.4	99.1	P		
F449	8/10/99	794560	839100	4	FB-46	117.3	12.9	113.4	14.1	96.7	P		
F450	8/10/99	794560	839300	4	FB-46	117.3	12.9	114.7	13.2	97.8	P		

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments	
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction			
								Requirements:	PM ≥ Opt. - 2	≥ 95			
F451	8/10/99	794560	839400	4	FB-46	117.3	12.9	114.7	13.9	97.8	P		
F452	8/10/99	794490	839460	4	FB-46	117.3	12.9	114.6	14.4	97.7	P		
F453	8/10/99	794480	839570	3	FB-46	117.3	12.9	113.2	14.3	96.5	P		
F454	8/10/99	794340	839490	3	FB-46	117.3	12.9	119.3	13.2	101.7	P		
F455	8/10/99	794470	839660	3	FB-46	117.3	12.9	116.6	13.0	99.4	P		
F456	*	8/10/99	794340	839570	3	FB-46	117.3	12.9	118.0	12.2	100.6	P	
F457	8/10/99	794350	839670	3	FB-47	118.4	13.0	112.5	17.4	95.0	P		
F458	8/10/99	793250	839890	1	FB-47	118.4	13.0	114.3	12.7	96.5	P		
F459	8/10/99	793270	839780	1	FB-47	118.4	13.0	114.2	13.1	96.5	P		
F460	8/10/99	793110	839740	1	FB-47	118.4	13.0	116.2	11.7	98.1	P		
F461	8/10/99	793080	839830	1	FB-47	118.4	13.0	112.5	11.7	95.0	P		
F462	8/10/99	793190	839830	1	FB-47	118.4	13.0	119.4	11.5	100.8	P		
F463	8/10/99	793340	839840	2	FB-47	118.4	13.0	117.4	12.0	99.2	P		
F464	8/10/99	793300	839900	2	FB-47	118.4	13.0	112.6	14.8	95.1	P		
F465	8/10/99	793270	839830	2	FB-47	118.4	13.0	113.2	11.0	95.6	P		
F466	8/10/99	793290	839790	2	FB-47	118.4	13.0	113.0	12.1	95.4	P		
F467	8/10/99	793200	839790	2	FB-48	114.1	13.2	112.6	12.7	98.7	P		
F468	*	8/10/99	793190	839880	2	FB-48	114.1	13.2	112.0	11.3	98.2	P	
F469	8/10/99	794510	839090	4	FB-48	114.1	13.2	117.2	12.6	102.7	P		
F470	8/10/99	794500	839180	4	FB-48	114.1	13.2	116.6	11.5	102.2	P		
F471	8/10/99	794430	839250	4	FB-48	114.1	13.2	110.5	12.1	96.8	P		
F472	8/10/99	794460	839350	4	FB-48	114.1	13.2	113.6	11.4	99.6	P		
F473	8/10/99	793420	839930	3	FB-48	114.1	13.2	112.4	11.5	98.5	P		
F474	8/10/99	793430	839820	3	FB-48	114.1	13.2	110.4	14.5	96.8	P		
F475	8/10/99	793340	839790	3	FB-48	114.1	13.2	113.3	13.0	99.3	P		
F476	8/10/99	793340	839890	3	FB-48	114.1	13.2	112.4	14.4	98.5	P		
F477	8/10/99	794380	839420	4	FB-49	116.4	12.8	118.9	12.5	102.1	P		
F478	8/10/99	794400	839520	4	FB-49	116.4	12.8	113.7	11.4	97.7	P		
F479	8/10/99	794270	839540	4	FB-49	116.4	12.8	113.9	12.6	97.9	P		
F480	8/10/99	794280	839620	4	FB-49	116.4	12.8	117.1	11.7	100.6	P		
F481	8/11/99	794000	839790	1	FB-49	116.4	12.8	116.9	11.5	100.4	P		
F482	8/11/99	793030	839710	1	FB-49	116.4	12.8	119.0	12.7	102.2	P		
F483	8/11/99	793140	839720	2	FB-49	116.4	12.8	116.7	11.3	100.3	P		
F484	8/11/99	793080	839790	2	FB-49	116.4	12.8	117.3	12.2	100.8	P		
F485	8/11/99	793010	839740	2	FB-49	116.4	12.8	118.5	11.3	101.8	P		

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location			Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments	
		Northing	Easting	Lift	Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction			
								Requirements:	PM ≥ Opt. - 2	≥ 95			
F486	8/11/99	793040	839670	2	FB-49	116.4	12.8	115.3	14.8	99.1	P		
F487	8/11/99	792980	839650	1	FB-50	115.6	12.3	117.2	12.2	101.4	P		
F488	8/11/99	792940	839730	1	FB-50	115.6	12.3	113.4	12.3	98.1	P		
F489	8/11/99	794480	839570	4	FB-50	115.6	12.3	113.1	13.0	97.8	P		
F490	*	8/11/99	794410	839620	4	FB-50	115.6	12.3	116.9	11.9	101.1	P	
F491	8/11/99	794420	839740	4	FB-50	115.6	12.3	111.6	11.5	96.5	P		
F492	8/11/99	794390	839640	4	FB-50	115.6	12.3	112.7	11.5	97.5	P		
F493	8/11/99	792840	839720	1	FB-50	115.6	12.3	115.5	12.7	99.9	P		
F494	8/11/99	792900	839650	1	FB-50	115.6	12.3	114.9	12.0	99.4	P		
F495	8/11/99	792900	839570	1	FB-50	115.6	12.3	113.3	11.5	98.0	P		
F496	8/11/99	792960	839680	2	FB-50	115.6	12.3	116.0	13.5	100.3	P		
F497	8/11/99	792900	839760	2	FB-51	117.8	12.3	115.9	13.2	98.4	P		
F498	8/11/99	794310	839750	4	FB-51	117.8	12.3	119.1	12.0	101.1	P		
F499	8/11/99	794220	839740	4	FB-51	117.8	12.3	114.3	11.2	97.0	P		
F500	8/11/99	794400	839820	4	FB-51	117.8	12.3	117.9	12.7	100.1	P		
F501	*	8/12/99	794840	837530	5	FB-51	117.8	12.3	117.2	10.7	99.5	P	
F502	8/12/99	794880	837680	5	FB-51	117.8	12.3	113.9	13.4	96.7	P		
F503	8/12/99	794780	837730	5	FB-51	117.8	12.3	112.4	12.9	95.4	P		
F504	8/12/99	794870	837930	5	FB-51	117.8	12.3	113.0	11.9	95.9	P		
F505	8/12/99	794900	838100	5	FB-51	117.8	12.3	112.0	14.2	95.1	P		
F506	8/12/99	793250	839860	3	FB-51	117.8	12.3	113.4	13.5	96.3	P		
F507	8/12/99	793260	839770	3	FB-52	117.9	12.5	113.9	11.6	96.6	P		
F508	8/12/99	793190	839790	3	FB-52	117.9	12.5	119.5	10.6	101.4	P		
F509	8/12/99	793160	839870	3	FB-52	117.9	12.5	114.9	10.7	97.5	P		
F510	8/12/99	793100	839780	3	FB-52	117.9	12.5	113.2	12.8	96.0	P		
F511	*	8/12/99	793050	839700	3	FB-52	117.9	12.5	117.2	11.4	99.4	P	
F512	8/12/99	793000	839810	3	FB-52	117.9	12.5	116.6	13.2	98.9	P		
F513	8/12/99	792940	839740	3	FB-52	117.9	12.5	118.2	11.6	100.3	P		
F514	8/12/99	792950	839610	3	FB-52	117.9	12.5	112.7	12.9	95.6	P		
F515	8/12/99	792870	839720	3	FB-52	117.9	12.5	116.5	11.2	98.8	P		
F516	8/12/99	793470	839960	4	FB-52	117.9	12.5	116.6	11.8	98.9	P		
F517	8/12/99	793410	839820	4	FB-53	118.8	12.5	114.7	11.8	96.5	P		
F518	8/12/99	793400	839900	4	FB-53	118.8	12.5	114.3	10.6	96.2	P		
F519	*	8/12/99	793350	839800	4	FB-53	118.8	12.5	116.8	11.7	98.3	P	
F520	8/12/99	793290	839900	4	FB-53	118.8	12.5	117.5	12.9	98.9	P		

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments	
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction			
								Requirements:	PM ≥ Opt. - 2	≥ 95			
F521	8/13/99	793230	839890	4	FB-53	118.8	12.5	114.5	11.7	96.4	P		
F522	8/13/99	793170	839830	4	FB-53	118.8	12.5	104.2	12.2	87.7	F Comp	Fails Compaction	
F522R	8/16/99	793170	839830	4	FB-53	118.8	12.5	113.3	12.3	95.4	P	Retest	
F523	8/13/99	793110	839730	4	FB-53	118.8	12.5	114.6	11.5	96.5	P		
F524	8/13/99	793070	839810	4	FB-53	118.8	12.5	113.1	10.5	95.2	P		
F525	8/13/99	794750	838110	5	FB-53	118.8	12.5	115.3	14.4	97.1	P		
F526	8/13/99	794900	838170	5	FB-53	118.8	12.5	115.0	13.2	96.8	P		
F527	8/13/99	794770	838250	5	FB-54	116.6	13.0	113.8	13.0	97.6	P		
F528	8/13/99	794820	838350	5	FB-54	116.6	13.0	115.2	11.2	98.8	P		
F529	8/13/99	794700	838440	5	FB-54	116.6	13.0	113.2	12.9	97.1	P		
F530	8/13/99	794770	838550	5	FB-54	116.6	13.0	112.8	15.1	96.7	P		
F531	*	8/13/99	794630	838630	5	FB-54	116.6	13.0	113.0	12.7	96.9	P	
F532	8/13/99	794680	838720	5	FB-54	116.6	13.0	113.1	11.4	97.0	P		
F533	8/13/99	794610	838840	5	FB-54	116.6	13.0	112.6	14.3	96.6	P		
F534	8/13/99	794530	838920	5	FB-54	116.6	13.0	116.6	12.5	100.0	P		
F535	8/13/99	794510	839120	5	FB-54	116.6	13.0	117.5	12.3	100.8	P		
F536	8/13/99	794600	839220	5	FB-54	116.6	13.0	112.7	11.7	96.7	P		
F537	8/16/99	793020	839750	4	FB-55	118.4	12.2	114.2	10.3	96.5	P		
F538	8/16/99	792920	839760	4	FB-55	118.4	12.2	118.7	11.3	100.3	P		
F539	8/16/99	793000	839650	4	FB-55	118.4	12.2	113.6	12.2	95.9	P		
F540	*	8/16/99	792890	839660	4	FB-55	118.4	12.2	113.6	11.7	95.9	P	
F541	8/16/99	792820	839740	4	FB-55	118.4	12.2	113.5	10.6	95.9	P		
F542	8/16/99	794530	839270	5	FB-55	118.4	12.2	113.3	15.4	95.7	P		
F543	8/16/99	794410	839340	5	FB-55	118.4	12.2	114.4	13.3	96.6	P		
F544	8/16/99	794550	839480	5	FB-55	118.4	12.2	113.4	12.2	95.8	P		
F545	8/16/99	794430	839540	5	FB-55	118.4	12.2	119.4	11.2	100.8	P		
F546	8/16/99	794300	839550	5	FB-55	118.4	12.2	117.6	12.1	99.3	P		
F547	8/16/99	794370	839730	5	FB-56	118.8	12.0	114.5	11.7	96.4	P		
F548	8/16/99	794220	839670	5	FB-56	118.8	12.0	113.8	13.0	95.8	P		
F549	8/16/99	794290	839900	5	FB-56	118.8	12.0	116.8	12.2	98.3	P		
F550	*	8/16/99	794130	839850	5	FB-56	118.8	12.0	119.6	10.5	100.7	P	
F551	8/17/99	794050	839840	5	FB-56	118.8	12.0	114.6	11.4	96.5	P		
F552	8/17/99	793930	839830	5	FB-56	118.8	12.0	114.3	10.6	96.2	P		
F553	8/17/99	793890	840020	5	FB-56	118.8	12.0	113.0	12.4	95.1	P		
F554	8/17/99	793800	839940	5	FB-56	118.8	12.0	113.1	10.0	95.2	P		

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location			Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting	Lift	Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F555	8/17/99	793710	840030	5	FB-56	118.8	12.0	116.4	10.1	98.0	P	
F556	8/17/99	793570	839870	5	FB-56	118.8	12.0	116.3	10.1	97.9	P	
F557	8/17/99	793480	839910	5	FB-57	120.2	11.5	118.1	10.6	98.3	P	
F558	8/17/99	793400	839940	5	FB-57	120.2	11.5	116.5	11.3	96.9	P	
F559	8/17/99	793360	839840	5	FB-57	120.2	11.5	117.6	9.5	97.8	P	
F560	8/17/99	793240	839780	5	FB-57	120.2	11.5	122.6	10.5	102.0	P	
F561	* 8/17/99	792750	839700	1	FB-57	120.2	11.5	115.9	9.9	96.4	P	
F562	8/17/99	792710	839620	1	FB-57	120.2	11.5	116.9	9.5	97.3	P	
F563	8/17/99	792870	839500	1	FB-57	120.2	11.5	117.3	11.0	97.6	P	
F564	8/17/99	792680	839520	1	FB-57	120.2	11.5	117.2	10.8	97.5	P	
F565	8/17/99	792780	839450	1	FB-57	120.2	11.5	122.2	9.8	101.7	P	
F566	8/17/99	792900	839560	2	FB-57	120.2	11.5	117.6	11.5	97.8	P	
F567	8/17/99	792800	839640	2	FB-58	117.2	12.5	113.6	11.8	96.9	P	
F568	8/17/99	792870	839700	2	FB-58	117.2	12.5	113.2	12.9	96.6	P	
F569	8/17/99	792810	839530	2	FB-58	117.2	12.5	119.8	10.6	102.2	P	
F570	8/17/99	792680	839630	2	FB-58	117.2	12.5	119.3	11.2	101.8	P	
F571	8/17/99	792650	839550	2	FB-58	117.2	12.5	113.3	11.2	96.7	P	
F572	8/17/99	792840	839420	2	FB-58	117.2	12.5	111.6	11.4	95.2	P	
F573	* 8/17/99	792830	839600	3	FB-58	117.2	12.5	111.9	11.1	95.5	P	
F574	8/17/99	792760	839650	3	FB-58	117.2	12.5	113.1	10.6	96.5	P	
F575	8/17/99	792840	839500	3	FB-58	117.2	12.5	112.5	11.6	96.0	P	
F576	8/17/99	792750	839570	3	FB-58	117.2	12.5	116.6	10.8	99.5	P	
F577	8/17/99	792640	839460	1	FB-59	118.5	12.2	114.1	13.5	96.3	P	
F578	8/17/99	792750	839400	1	FB-59	118.5	12.2	114.4	10.8	96.5	P	
F579	8/18/99	792890	839550	4	FB-59	118.5	12.2	112.8	12.9	95.2	P	
F580	8/18/99	792800	839520	4	FB-59	118.5	12.2	114.1	11.3	96.3	P	
F581	* 8/18/99	792780	839670	4	FB-59	118.5	12.2	118.6	11.6	100.1	P	
F582	8/18/99	792750	839450	3	FB-59	118.5	12.2	118.5	10.8	100.0	P	
F583	8/18/99	792630	839540	3	FB-59	118.5	12.2	116.5	12.0	98.3	P	
F584	8/18/99	792720	839590	4	FB-59	118.5	12.2	114.0	13.1	96.2	P	
F585	8/18/99	792810	839420	4	FB-59	118.5	12.2	118.1	11.5	99.7	P	
F586	8/18/99	792680	839510	4	FB-59	118.5	12.2	115.2	12.0	97.2	P	
F587	8/19/99	792710	839400	1	FB-60	116.7	13.0	115.9	12.2	99.3	P	
F588	8/19/99	792600	839460	2	FB-60	116.7	13.0	116.3	15.2	99.7	P	
F589	8/19/99	792770	839370	2	FB-60	116.7	13.0	118.9	14.1	101.9	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F590 *	8/19/99	792540	839390	1	FB-60	116.7	13.0	115.0	11.9	98.5	P	
F591	8/19/99	792730	839310	1	FB-60	116.7	13.0	113.7	11.7	97.4	P	
F592	8/19/99	792670	839340	2	FB-60	116.7	13.0	114.8	14.8	98.4	P	
F593	8/19/99	792540	839300	1	FB-60	116.7	13.0	111.3	12.5	95.4	P	
F594	8/19/99	792720	839340	3	FB-60	116.7	13.0	114.4	15.3	98.0	P	
F595	8/19/99	792600	839370	3	FB-60	116.7	13.0	117.3	12.5	100.5	P	
F596	8/19/99	792680	839240	1	FB-60	116.7	13.0	116.0	12.3	99.4	P	
F597	8/19/99	792620	839160	1	FB-61	117.7	12.5	115.6	12.2	98.2	P	
F598	8/19/99	792430	839230	1	FB-61	117.7	12.5	116.1	13.2	98.6	P	
F599	8/19/99	792440	839130	1	FB-61	117.7	12.5	111.8	11.9	95.0	P	
F600 *	8/19/99	792560	839400	2	FB-61	117.7	12.5	114.5	15.2	97.3	P	
F601	8/19/99	792480	839310	2	FB-61	117.7	12.5	115.0	13.0	97.7	P	
F602	8/19/99	792530	839200	2	FB-61	117.7	12.5	116.0	12.0	98.6	P	
F603	8/19/99	792610	839290	2	FB-61	117.7	12.5	112.9	12.0	95.9	P	
F604	8/19/99	792650	839280	2	FB-61	117.7	12.5	117.8	13.4	100.1	P	
F605	8/20/99	792570	839380	3	FB-61	117.7	12.5	113.3	12.0	96.3	P	
F606	8/20/99	792730	839320	3	FB-61	117.7	12.5	116.2	11.6	98.7	P	
F607	8/20/99	792600	839100	2	FB-62	117.8	12.5	116.3	12.4	98.7	P	
F608	8/20/99	792850	839600	5	FB-62	117.8	12.5	112.2	10.9	95.2	P	
F609	8/20/99	792730	839400	4	FB-62	117.8	12.5	114.6	13.2	97.3	P	
F610 *	8/20/99	792600	839460	4	FB-62	117.8	12.5	117.3	10.6	99.6	P	
F611	8/20/99	792400	839150	2	FB-62	117.8	12.5	118.0	11.7	100.2	P	
F612	8/20/99	792530	839100	2	FB-62	117.8	12.5	113.2	12.6	96.1	P	
F613	8/20/99	792500	839220	2	FB-62	117.8	12.5	114.7	13.7	97.4	P	
F614	8/20/99	792430	839230	2	FB-62	117.8	12.5	112.3	12.3	95.3	P	
F615	8/20/99	792530	839410	3	FB-62	117.8	12.5	114.6	10.5	97.3	P	
F616	8/20/99	792670	839260	3	FB-62	117.8	12.5	116.8	12.8	99.2	P	
F617	8/20/99	792580	839280	3	FB-63	118.8	12.8	115.3	13.1	97.1	P	
F618	8/20/99	792490	839320	3	FB-63	118.8	12.8	113.1	14.7	95.2	P	
F619	8/20/99	792470	839320	3	FB-63	118.8	12.8	114.8	10.9	96.6	P	
F620 *	8/20/99	792390	839210	1	FB-63	118.8	12.8	113.5	14.9	95.5	P	
F621	8/20/99	792510	839000	1	FB-63	118.8	12.8	116.2	12.5	97.8	P	
F622	8/20/99	792360	838950	1	FB-63	118.8	12.8	119.2	11.5	100.3	P	
F623	8/20/99	792400	838870	1	FB-63	118.8	12.8	114.7	12.5	96.5	P	
F624	8/20/99	792340	838830	1	FB-63	118.8	12.8	114.4	14.6	96.3	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F625	8/23/99	792390	839050	2	FB-63	118.8	12.8	120.2	12.2	101.2	P	
F626	8/23/99	792540	839040	2	FB-63	118.8	12.8	120.4	11.3	101.3	P	
F627	8/23/99	792430	838940	2	FB-64	118.5	12.0	113.8	12.2	96.0	P	
F628	8/23/99	792350	838930	2	FB-64	118.5	12.0	117.4	12.0	99.1	P	
F629	8/23/99	792350	838830	2	FB-64	118.5	12.0	114.6	13.4	96.7	P	
F630	* 8/23/99	792550	839410	4	FB-64	118.5	12.0	114.5	12.8	96.6	P	
F631	8/23/99	792670	839340	4	FB-64	118.5	12.0	113.6	12.2	95.9	P	
F632	8/23/99	792640	839200	3	FB-64	118.5	12.0	117.2	11.3	98.9	P	
F633	8/23/99	792530	839210	3	FB-64	118.5	12.0	113.8	14.9	96.0	P	
F634	8/24/99	792720	839330	4	FB-64	118.5	12.0	116.4	12.8	98.2	P	
F635	8/24/99	792670	839460	4	FB-64	118.5	12.0	114.1	11.6	96.3	P	
F636	8/24/99	792580	839080	3	FB-64	118.5	12.0	116.1	15.0	98.0	P	
F637	8/24/99	792470	839150	3	FB-65	119.5	12.3	114.3	11.5	95.6	P	
F638	8/24/99	792380	839050	3	FB-65	119.5	12.3	114.3	11.5	95.6	P	
F639	8/24/99	792530	839030	3	FB-65	119.5	12.3	114.8	13.9	96.1	P	
F640	8/24/99	792480	838950	3	FB-65	119.5	12.3	117.7	10.3	98.5	P	
F641	* 8/24/99	792390	838970	3	FB-65	119.5	12.3	114.0	10.5	95.4	P	
F642	8/24/99	792380	838880	3	FB-65	119.5	12.3	117.6	10.6	98.4	P	
F643	8/24/99	792350	838790	3	FB-65	119.5	12.3	104.6	10.7	87.5	F Comp	Fails Compaction
F643R	8/24/99	792350	838790	3	FB-65	119.5	12.3	116.1	13.8	97.2	P	Retest
F644	8/24/99	794810	838450	5	FB-65	119.5	12.3	109.6	11.1	91.7	F Comp	Fails Compaction
F644R	8/25/99	794810	838450	5	FB-65	119.5	12.3	114.5	10.7	95.8	P	Retest
F645	8/24/99	794770	838640	5	FB-65	119.5	12.3	113.6	11.2	95.1	P	
F646	8/24/99	794740	838750	5	FB-65	119.5	12.3	114.7	10.7	96.0	P	
F647	8/24/99	794700	838920	5	FB-66	118.9	12.4	114.9	10.8	96.6	P	
F648	8/24/99	794840	837090	5	FB-66	118.9	12.4	112.4	10.3	94.5	F C & M	Fails Compaction & Moisture
F648R	8/24/99	794840	837090	5	FB-66	118.9	12.4	119.3	12.1	100.3	P	Retest
F649	8/24/99	792700	839240	4	FB-66	118.9	12.4	113.8	11.7	95.7	P	
F650	* 8/24/99	792430	839230	4	FB-66	118.9	12.4	103.0	11.2	86.6	F Comp	Fails Compaction
F650R	8/26/99	792430	839230	4	FB-66	118.9	12.4	113.9	13.1	95.8	P	Retest
F651	8/25/99	792530	839300	4	FB-66	118.9	12.4	114.3	12.1	96.1	P	
F652	8/25/99	792630	839300	4	FB-66	118.9	12.4	116.1	11.6	97.6	P	
F653	8/25/99	792580	839190	4	FB-66	118.9	12.4	113.9	13.8	95.8	P	
F654	8/25/99	792790	839690	5	FB-66	118.9	12.4	113.2	10.6	95.2	P	
F655	8/25/99	792920	839630	5	FB-66	118.9	12.4	116.4	10.9	97.9	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments	
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction			
								Requirements:	PM ≥ Opt. - 2	≥ 95			
F656	8/26/99	792340	838810	4	FB-66	118.9	12.4	118.7	10.5	99.8	P		
F657	8/26/99	792410	838880	4	FB-67	119.5	12.1	114.2	13.2	95.6	P		
F658	8/26/99	792500	838960	4	FB-67	119.5	12.1	115.2	6.2	96.4	F Moist	Fails Moisture	
F658R	8/26/99	792500	838960	4	FB-67	119.5	12.1	114.5	13.9	95.8	P	Retest	
F659	8/26/99	792550	839130	4	FB-67	119.5	12.1	114.4	13.6	95.7	P		
F660	8/26/99	792520	839030	4	FB-67	119.5	12.1	110.4	15.9	92.4	F Comp	Fails Compaction	
F660R	8/27/99	792520	839030	4	FB-67	119.5	12.1	116.9	11.7	97.8	P	Retest	
F661	8/26/99	792350	838910	4	FB-67	119.5	12.1	113.8	11.9	95.2	P		
F662	8/26/99	792390	838990	4	FB-67	119.5	12.1	115.6	10.3	96.7	P		
F663	8/26/99	792400	839080	4	FB-67	119.5	12.1	114.0	14.3	95.4	P		
F664	*	8/26/99	792430	839150	4	FB-67	119.5	12.1	113.9	13.2	95.3	P	
F665	8/27/99	792760	839540	5	FB-67	119.5	12.1	115.6	13.0	96.7	P		
F666	8/27/99	792780	839450	5	FB-67	119.5	12.1	116.9	14.0	97.8	P		
F667	8/27/99	792700	839400	5	FB-68	120.3	10.6	115.3	8.6	95.8	P		
F668	8/27/99	792650	839330	5	FB-68	120.3	10.6	115.9	12.8	96.3	P		
F669	8/27/99	792650	839240	5	FB-68	120.3	10.6	114.9	13.7	95.5	P		
F670	*	8/27/99	792470	839230	5	FB-68	120.3	10.6	114.5	15.0	95.2	P	
F671	8/27/99	794560	839000	5	FB-68	120.3	10.6	118.1	9.5	98.2	P		
F672	8/27/99	793170	839810	5	FB-68	120.3	10.6	118.5	11.9	98.5	P		
F673	8/27/99	793070	839800	5	FB-68	120.3	10.6	114.9	9.1	95.5	P		
F674	8/27/99	793040	839710	5	FB-68	120.3	10.6	114.4	8.6	95.1	P		
F675	8/27/99	792950	839690	5	FB-68	120.3	10.6	117.5	10.2	97.7	P		
F676	8/30/99	792380	839100	5	FB-68	120.3	10.6	118.1	9.4	98.2	P		
F677	8/30/99	792440	839020	5	FB-69	119.0	12.5	116.0	10.7	97.5	P		
F678	8/31/99	792640	839130	5	FB-69	119.0	12.5	114.9	14.3	96.6	P		
F679	8/31/99	792330	838810	5	FB-69	119.0	12.5	115.5	10.5	97.1	P		
F680	8/31/99	792380	838880	5	FB-69	119.0	12.5	115.3	14.0	96.9	P		
F681	*	8/31/99	792400	838960	5	FB-69	119.0	12.5	117.3	12.1	98.6	P	
F682	8/31/99	792600	839020	5	FB-69	119.0	12.5	118.0	11.4	99.2	P		
F683	8/31/99	792550	838970	5	FB-70	117.2	12.7	112.2	15.6	95.7	P		
F684	9/1/99	794450	839130	5	FB-70	117.2	12.7	111.4	11.3	95.1	P		
F685	*	9/1/99	794410	839280	5	FB-70	117.2	12.7	113.3	10.9	96.7	P	
F686	9/1/99	794600	839260	5	FB-70	117.2	12.7	114.6	12.6	97.8	P		
F-687	5/25/00	792520	838985	1	FB-71	119.9	12.0	117.4	13.7	97.9	P		
F-688	5/25/00	792360	838920	1	FB-71	119.9	12.0	114.0	15.8	95.1	P		

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F-689	5/25/00	792485	839288	1	FB-71	119.9	12.0	108.9	17.9	90.8	F Comp	Fails Compaction
F-689R	5/25/00	792485	839288	1	FB-71	119.9	12.0	115.8	13.0	96.6	P	Retest
F-690	5/26/00	792705	839162	1	FB-71	119.9	12.0	114.3	10.1	95.3	P	
F-691	5/26/00	792350	838990	1	FB-71	119.9	12.0	114.8	11.1	95.7	P	
F-692	5/26/00	792515	839207	1	FB-71	119.9	12.0	114.4	13.4	95.4	P	
F-693	5/26/00	792398	839140	1	FB-71	119.9	12.0	114.4	10.7	95.4	P	
F-694	5/26/00	792472	838972	2	FB-71	119.9	12.0	114.0	10.3	95.1	P	
F-695	5/26/00	792525	839020	2	FB-71	119.9	12.0	107.4	9.9	89.6	F Comp	Fails Compaction
F-695R	5/26/00	792525	839020	2	FB-72	121.0	11.0	116.8	9.6	96.5	P	Retest
F-696	5/26/00	792525	839097	2	FB-72	121.0	11.0	116.0	9.0	95.9	P	
F-697	5/26/00	792600	839242	2	FB-72	121.0	11.0	116.7	12.0	96.4	P	
F-698	5/26/00	792570	839290	2	FB-72	121.0	11.0	114.9	11.0	95.0	P	
F-699	5/26/00	792512	839180	2	FB-72	121.0	11.0	115.5	9.1	95.5	P	
F-700	5/26/00	792630	839148	2	FB-72	121.0	11.0	120.7	13.0	99.8	P	
F-701	5/26/00	792340	838952	2	FB-72	121.0	11.0	115.2	9.0	95.2	P	
F-702	5/30/00	792625	839016	3	FB-71	119.9	12.0	117.6	16.3	98.1	P	
F-703	5/30/00	792515	839282	3	FB-72	121.0	11.0	117.3	9.1	96.9	P	
F-704	5/30/00	792560	839412	3	FB-72	121.0	11.0	119.2	9.1	98.5	P	
F-705	5/30/00	792697	839230	3	FB-72	121.0	11.0	116.2	11.5	96.0	P	
F-706	5/30/00	792450	839225	3	FB-72	121.0	11.0	115.4	91.1	95.4	P	
F-707	5/30/00	792502	839310	3	FB-73	121.9	11.9	115.8	9.9	95.0	P	
F-708	5/30/00	792695	839175	3	FB-73	121.9	11.9	119.9	15.8	98.4	P	
F-709	5/30/00	792642	839050	3	FB-73	121.9	11.9	115.9	15.6	95.1	P	
F-710	5/31/00	792482	838875	3	FB-73	121.9	11.9	117.1	11.4	96.1	P	
F-711	5/31/00	792540	838910	3	FB-74	112.4	14.8	109.7	17.1	97.6	P	
F-712	5/31/00	792563	839092	3	FB-73	121.9	11.9	112.1	11.4	92.0	F Comp	Fails Compaction
F-712R	5/31/00	792563	839092	3	FB-73	121.9	11.9	116.1	11.5	95.2	P	Retest
F-713	5/31/00	792405	838805	3	FB-73	121.9	11.9	118.5	10.7	97.2	P	
F-714	5/31/00	792395	838925	3	FB-74	112.4	14.8	110.9	13.8	98.7	P	
F-715	5/31/00	792395	838980	3	FB-73	121.9	11.9	116.4	12.3	95.5	P	
F-716	5/31/00	792494	838945	3	FB-75	117.9	12.0	114.3	16.4	96.9	P	
F-717	5/31/00	792483	838994	3	FB-73	121.9	11.9	117.0	9.9	96.0	P	
F-718	5/31/00	792327	838890	3	FB-73	121.9	11.9	117.2	8.5	96.1	F Moist	Fails Moisture
F-718R	6/1/00	792327	838890	3	FB-73	121.9	11.9	120.9	10.8	99.2	P	Retest
F-719	5/31/00	792390	838850	3	FB-73	121.9	11.9	117.5	12.3	96.4	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

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Compaction Test ID	Date	Location			Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments	
		Northing	Easting	Lift	Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction			
								Requirements:	PM ≥ Opt. - 2	≥ 95			
F-720	5/31/00	792450	839120	3	FB-75	117.9	12.0	116.3	11.7	98.6	P		
F-721	5/31/00	792410	839090	3	FB-75	117.9	12.0	117.7	13.6	99.8	P		
F-722	5/31/00	792440	839205	3	FB-75	117.9	12.0	114.1	17.4	96.8	P		
F-723	5/31/00	793005	839530	1	FB-75	117.9	12.0	115.5	15.4	98.0	P		
F-724	5/31/00	792880	839555	1	FB-75	117.9	12.0	115.4	16.4	97.9	P		
F-725	*	5/31/00	792795	839285	1	FB-75	117.9	12.0	118.1	13.5	100.2	P	
F-726		5/31/00	792850	839325	1	FB-75	117.9	12.0	113.3	11.7	96.1	P	
F-727		6/1/00	792795	839525	1	FB-76	118.8	12.8	118.8	13.0	100.0	P	
F-728		6/1/00	792782	839590	1	FB-75	117.9	12.0	118.5	10.6	100.5	P	
F-729	*	6/1/00	792403	838830	4	FB-75	117.9	12.0	115.2	11.9	97.7	P	
F-730		6/1/00	792505	838870	4	FB-76	118.8	12.8	119.0	16.8	100.2	P	
F-731		6/1/00	792420	839080	4	FB-76	118.8	12.8	122.3	11.6	102.9	P	
F-732		6/1/00	792587	839155	4	FB-76	118.8	12.8	118.7	11.4	99.9	P	
F-733		6/2/00	792425	838930	4	FB-76	118.8	12.8	114.3	10.8	96.2	P	
F-734		6/2/00	792380	839030	4	FB-74	112.4	14.8	107.3	17.3	95.5	P	
F-735		6/2/00	792420	839160	4	FB-74	112.4	14.8	107.2	16.3	95.4	P	
F-736		6/2/00	792440	839100	1	FB-74	112.4	14.8	110.2	14.4	98.0	P	
F-737	*	6/2/00	793012	839752	1	FB-74	112.4	14.8	106.9	13.4	95.1	P	
F-738		6/2/00	794190	839743	1	FB-77	110.2	14.9	104.9	12.9	95.2	P	
F-739		6/2/00	794165	839697	1	FB-78	115.5	13.2	105.7	15.5	91.5	F Comp	Fails Compaction - No Retest
F-740		6/2/00	793970	839715	1	FB-79	112.3	14.9	110.2	16.1	98.1	P	
F-741		6/2/00	792500	839225	4	FB-74	112.4	14.8	113.6	13.3	101.1	P	
F-742		6/2/00	792420	839120	4	FB-74	112.4	14.8	113.6	13.4	101.1	P	
F-743		6/2/00	792380	839075	4	FB-76	118.8	12.8	115.2	15.8	97.0	P	
F-744		6/5/00	794395	839450	1	FB-77	110.2	14.9	104.8	18.3	95.1	P	
F-745		6/5/00	794415	839506	1	FB-77	110.2	14.9	107.7	15.1	97.7	P	
F-746		6/5/00	794412	839709	1	FB-77	110.2	14.9	111.8	16.1	101.5	P	
F-747		6/5/00	794445	839610	1	FB-77	110.2	14.9	105.2	21.9	95.5	P	
F-748		6/5/00	794495	839495	1	FB-78	115.5	13.2	112.1	15.8	97.1	P	
F-749		6/5/00	794455	839239	1	FB-77	110.2	14.9	108.5	14.2	98.5	P	
F-750		6/5/00	794542	839500	1	FB-77	110.2	14.9	106.3	17.1	96.5	P	
F-751		6/5/00	794545	839340	1	FB-77	110.2	14.9	106.6	17.3	96.7	P	
F-752		6/5/00	794050	839620	2	FB-79	112.3	14.9	105.6	13.9	94.0	F Comp	Fails Compaction
F-752R		6/5/00	794050	839620	2	FB-79	112.3	14.9	110.4	15.9	98.3	P	Retest
F-753		6/5/00	794600	839260	2	FB-79	112.3	14.9	108.0	13.3	96.2	P	

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 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location			Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting	Lift	Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F-754	6/5/00	794060	839740	2	FB-79	112.3	14.9	107.5	16.3	95.7	P	
F-755	6/5/00	793960	839690	2	FB-79	112.3	14.9	106.9	14.4	95.2	P	
F-756	6/5/00	794240	839680	2	FB-80	108.9	17.5	106.4	19.0	97.7	P	
F-757	* 6/5/00	794124	839750	1	FB-78	115.5	13.2	113.8	12.8	98.5	P	
F-758	6/5/00	794210	839855	1	FB-80	108.9	17.5	105.5	17.0	96.9	P	
F-759	6/5/00	793130	839605	1	FB-79	112.3	14.9	111.2	14.4	99.0	P	
F-760	6/6/00	793445	836630	1	FB-78	115.5	13.2	110.6	16.6	95.8	P	
F-761	6/6/00	793560	836740	1	FB-78	115.5	13.2	111.3	14.2	96.4	P	
F-762	6/6/00	793370	836760	1	FB-78	115.5	13.2	109.9	15.6	95.2	P	
F-763	6/6/00	793845	836750	1	FB-80	108.9	17.5	107.1	17.3	98.3	P	
F-764	6/6/00	793920	836760	1	FB-78	115.5	13.2	111.4	15.4	96.5	P	
F-765	6/6/00	794400	836880	1	FB-79	112.3	14.9	110.8	20.6	98.7	P	
F-766	6/6/00	794375	837030	1	FB-78	115.5	13.2	111.6	16.9	96.6	P	
F-767	6/6/00	794460	837110	1	FB-78	115.5	13.2	111.2	17.3	96.3	P	
F-768	6/6/00	794295	839580	2	FB-78	115.5	13.2	110.1	17.0	95.3	P	
F-769	6/6/00	794480	839530	2	FB-80	108.9	17.5	94.6	22.8	86.9	F Comp	Fails Compaction
F-769R	* 6/21/00	794480	839530	2	FB-80	108.9	17.5	107.5	17.6	98.7	P	Retest
F-770	6/6/00	794450	839395	2	FB-80	108.9	17.5	98.8	9.2	90.7	F C & M	Fails Compaction & Moisture
F-770R	6/21/00	794450	839395	2	FB-80	108.9	17.5	103.5	17.9	95.0	P	Retest
F-771	6/6/00	793485	836640	2	FB-78	115.5	13.2	113.9	14.4	98.6	P	
F-772	6/6/00	793685	836675	2	FB-79	112.3	14.9	113.7	17.3	101.2	P	
F-773	6/6/00	794015	836860	2	FB-82	116.8	13.9	115.8	15.4	99.1	P	
F-774	6/6/00	793975	836720	2	FB-79	112.3	14.9	110.0	19.8	98.0	P	
F-775	6/6/00	793880	836740	2	FB-79	112.3	14.9	107.7	17.5	95.9	P	
F-776	6/6/00	794100	836770	1	FB-80	108.9	17.5	106.7	20.3	98.0	P	
F-777	* 6/6/00	794390	837010	1	FB-79	112.3	14.9	110.0	13.9	98.0	P	
F-778	6/6/00	794220	836990	1	FB-80	108.9	17.5	108.5	18.3	99.6	P	
F-779	6/7/00	793397	836670	3	FB-83	113.8	15.0	112.1	18.5	98.5	P	
F-780	6/7/00	793555	836620	3	FB-80	108.9	17.5	104.7	20.0	96.1	P	
F-781	6/7/00	793599	836690	3	FB-80	108.9	17.5	102.0	19.7	93.7	F Comp	Fails Compaction
F-781R	6/7/00	793599	836690	3	FB-80	108.9	17.5	104.4	18.0	95.9	P	Retest
F-782	6/7/00	793780	836710	3	FB-80	108.9	17.5	102.9	19.0	94.5	F Comp	Fails Compaction
F-782R	6/7/00	793780	836710	3	FB-80	108.9	17.5	105.8	17.0	97.2	P	Retest
F-783	6/7/00	793860	836705	3	FB-83	113.8	15.0	114.7	14.6	100.8	P	
F-784	6/7/00	793592	836640	3	FB-83	113.8	15.0	112.7	12.4	99.0	F Moist	Fails Moisture

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F-784R	6/7/00	793592	836640	3	FB-83	113.8	15.0	109.0	18.1	95.8	P	Retest
F-785	6/7/00	793650	836640	3	FB-80	108.9	17.5	105.3	15.8	96.7	P	
F-786	6/7/00	794680	837785	1	FB-83	113.8	15.0	108.1	13.0	95.0	P	
F-787	6/7/00	794755	837420	1	FB-83	113.8	15.0	107.3	14.9	94.3	F Comp	Fails Compaction
F-787R	6/8/00	794755	837420	1	FB-83	113.8	15.0	109.7	16.9	96.4	P	Retest
F-788	6/7/00	793405	836732	4	FB-81	107.6	17.5	102.5	18.2	95.3	P	
F-789	6/7/00	793885	836810	4	FB-81	107.6	17.5	104.5	15.5	97.1	P	
F-790	6/7/00	793985	836850	4	FB-81	107.6	17.5	105.3	14.1	97.9	F Moist	Fails Moisture
F-790R	6/7/00	793985	836850	4	FB-81	107.6	17.5	102.2	18.2	95.0	P	Retest
F-791	6/7/00	794032	836895	4	FB-81	107.6	17.5	107.3	17.9	99.7	P	
F-792	6/7/00	793805	836840	3	FB-83	113.8	15.0	108.5	15.2	95.3	P	
F-793	6/7/00	793640	836830	3	FB-83	113.8	15.0	110.1	17.5	96.7	P	
F-794	6/7/00	794190	836970	2	FB-81	107.6	17.5	104.9	18.8	97.5	P	
F-795	6/7/00	794120	836895	3	FB-81	107.6	17.5	104.7	19.3	97.3	P	
F-796	6/7/00	794200	836860	3	FB-81	107.6	17.5	107.9	18.5	100.3	P	
F-797	6/8/00	794690	837440	1	FB-81	107.6	17.5	105.1	21.8	97.7	P	
F-798	6/8/00	793900	836770	3	FB-83	113.8	15.0	109.6	15.8	96.3	P	
F-799	6/8/00	793915	836870	3	FB-83	113.8	15.0	112.1	13.6	98.5	P	
F-800	6/8/00	794060	836790	3	FB-81	107.6	17.5	103.5	18.6	96.2	P	
F-801	6/8/00	794360	836999	2	FB-82	116.8	13.9	114.2	13.3	97.8	P	
F-802	6/8/00	793625	836610	4	FB-82	116.8	13.9	115.6	12.7	99.0	P	
F-803	6/8/00	794440	837180	2	FB-81	107.6	17.5	106.3	18.2	98.8	P	
F-804	6/8/00	794560	837220	2	FB-84	109.7	16.5	105.6	20.0	96.3	P	
F-805	6/8/00	794580	837225	2	FB-84	109.7	16.5	108.3	15.1	98.7	P	
F-806	6/8/00	794730	837270	2	FB-84	109.7	16.5	105.7	22.5	96.4	P	
F-807	6/8/00	794345	836930	3	FB-84	109.7	16.5	107.4	15.9	97.9	P	
F-808	6/8/00	794250	836970	3	FB-84	109.7	16.5	106.4	20.0	97.0	P	
F-809	6/8/00	794190	836970	3	FB-84	109.7	16.5	109.1	18.2	99.5	P	
F-810	6/8/00	794670	837390	3	FB-84	109.7	16.5	107.3	19.6	97.8	P	
F-811	6/8/00	794670	837285	3	FB-84	109.7	16.5	106.2	19.3	96.8	P	
F-812	6/8/00	794385	837040	3	FB-84	109.7	16.5	107.8	15.5	98.3	P	
F-813	6/8/00	794620	837200	3	FB-82	116.8	13.9	116.0	14.5	99.3	P	
F-814	6/8/00	794750	837775	1	FB-82	116.8	13.9	116.4	14.6	99.7	P	
F-815	6/8/00	794740	838090	1	FB-82	116.8	13.9	115.4	17.1	98.8	P	
F-816	6/8/00	794620	838390	1	FB-84	109.7	16.5	107.2	15.6	97.7	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments	
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction			
								Requirements:	PM ≥ Opt. - 2	≥ 95			
F-817	*	6/8/00	794430	837060	1	FB-85	109.1	15.8	108.7	17.8	99.6	P	
F-818		6/8/00	794265	837025	1	FB-85	109.1	15.8	107.8	16.4	98.8	P	
F-819		6/8/00	794250	836940	1	FB-85	109.1	15.8	108.6	14.9	99.5	P	
F-820		6/9/00	794400	837150	1	FB-85	109.1	15.8	104.8	18.0	96.1	P	
F-821		6/9/00	794520	837240	1	FB-85	109.1	15.8	104.2	18.3	95.5	P	
F-822		6/9/00	794600	837330	1	FB-85	109.1	15.8	105.8	18.0	97.0	P	
F-823		6/9/00	794700	837430	3	FB-85	109.1	15.8	109.4	17.8	100.3	P	
F-824		6/9/00	794600	837260	3	FB-85	109.1	15.8	103.6	18.6	95.0	P	
F-825		6/9/00	794640	837160	3	FB-85	109.1	15.8	104.3	16.2	95.6	P	
F-826		6/9/00	794530	837100	3	FB-85	109.1	15.8	107.2	15.6	98.3	P	
F-827		6/9/00	794550	838610	2	FB-86	111.7	15.9	107.1	17.1	95.9	P	
F-828		6/9/00	794640	838610	2	FB-86	111.7	15.9	107.1	17.1	95.9	P	
F-829	*	6/9/00	794670	837940	2	FB-87	109.0	15.3	105.7	18.0	97.0	P	
F-830		6/9/00	794490	836970	3	FB-87	109.0	15.3	106.2	15.9	97.4	P	
F-831		6/9/00	794430	837040	3	FB-87	109.0	15.3	104.7	21.5	96.1	P	
F-832		6/9/00	794670	837750	2	FB-87	109.0	15.3	106.4	18.1	97.6	P	
F-833		6/9/00	794095	836910	4	FB-86	111.7	15.9	107.8	18.4	96.5	P	
F-834	*	6/9/00	794030	836825	4	FB-86	111.7	15.9	107.6	14.5	96.3	P	
F-835		6/9/00	793450	836860	4	FB-87	109.0	15.3	105.4	18.9	96.7	P	
F-836		6/12/00	793760	836795	1	FB-82	116.8	13.9	113.7	13.3	97.3	P	
F-837	*	6/12/00	793855	836905	1	FB-86	111.7	15.9	109.6	19.0	98.1	P	
F-838	*	6/12/00	793830	836820	1	FB-86	111.7	15.9	108.6	16.4	97.2	P	
F-839		6/12/00	793890	836840	5	FB-86	111.7	15.9	107.2	18.6	96.0	P	
F-840		6/12/00	793970	836930	1	FB-86	111.7	15.9	108.1	17.3	96.8	P	
F-841		6/12/00	794020	836955	1	FB-86	111.7	15.9	109.4	13.9	97.9	P	
F-842		6/12/00	794520	839013	3	FB-86	111.7	15.9	111.6	13.7	99.9	F Moist	Fails Moisture - No Retest
F-843		6/12/00	794510	839160	3	FB-86	111.7	15.9	109.0	14.2	97.6	P	
F-844		6/12/00	794470	839375	3	FB-88	113.0	15.8	111.1	12.5	98.3	F Moist	Fails Moisture - No Retest
F-845		6/12/00	793740	836980	1	FB-88	113.0	15.8	109.8	16.0	97.2	P	
F-846		6/12/00	794495	837300	1	FB-88	113.0	15.8	113.5	11.3	100.4	F Moist	Fails Moisture
F-846R		6/12/00	794495	837300	1	FB-88	113.0	15.8	109.8	14.6	97.2	P	Retest
F-847		6/12/00	794495	837305	1	FB-88	113.0	15.8	110.6	17.5	97.9	P	
F-848		6/12/00	794430	836990	4	FB-88	113.0	15.8	111.1	18.8	98.3	P	
F-849		6/12/00	794040	836940	4	FB-88	113.0	15.8	109.8	18.4	97.2	P	
F-850		6/12/00	793895	836790	4	FB-88	113.0	15.8	110.2	14.7	97.5	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed. Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints. See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location			Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments	
		Northing	Easting	Lift	Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction			
								Requirements:	PM ≥ Opt. - 2	≥ 95			
F-851	*	6/13/00	794528	838645	2	FB-88	113.0	15.8	107.8	16.2	95.4	P	
F-852		6/13/00	794590	838438	2	FB-88	113.0	15.8	108.4	14.0	95.9	P	
F-853		6/13/00	794690	837625	2	FB-88	113.0	15.8	112.1	14.7	99.2	P	
F-854		6/13/00	794597	838545	2	FB-87	109.0	15.3	106.2	15.5	97.4	P	
F-855		6/13/00	794692	838175	2	FB-87	109.0	15.3	104.3	16.8	95.7	P	
F-856		6/13/00	794670	838105	2	FB-87	109.0	15.3	105.4	17.9	96.7	P	
F-857		6/13/00	794680	838048	2	FB-87	109.0	15.3	106.3	16.9	97.5	P	
F-858		6/13/00	794685	837818	2	FB-87	109.0	15.3	106.2	15.0	97.4	P	
F-859		6/13/00	794750	837605	2	FB-90	112.3	15.1	108.4	17.1	96.5	P	
F-860		6/13/00	794680	837540	2	FB-90	112.3	15.1	109.0	17.8	97.1	P	
F-861		6/13/00	794750	837865	2	FB-90	112.3	15.1	109.3	15.7	97.3	P	
F-862		6/13/00	794768	838110	2	FB-90	112.3	15.1	108.7	16.6	96.8	P	
F-863		6/13/00	794770	838230	2	FB-90	112.3	15.1	109.0	15.3	97.1	P	
F-864		6/13/00	794691	838412	2	FB-90	112.3	15.1	107.8	14.6	96.0	P	
F-865		6/13/00	794658	838610	2	FB-89	108.8	17.1	105.9	19.7	97.3	P	
F-866		6/13/00	794576	838779	2	FB-90	112.3	15.1	112.3	14.5	100.0	P	
F-867		6/13/00	794830	837730	1	FB-90	112.3	15.1	109.4	13.1	97.4	P	
F-868		6/13/00	794830	837936	1	FB-90	112.3	15.1	110.5	13.9	98.4	P	
F-869		6/14/00	794668	838375	2	FB-89	108.8	17.1	105.6	15.8	97.1	P	
F-870		6/14/00	794538	838794	2	FB-89	108.8	17.1	104.2	14.6	95.8	F Moist	Fails Moisture
F-870R		6/15/00	794538	838794	2	FB-89	108.8	17.1	105.1	18.2	96.6	P	Retest
F-871		6/14/00	794588	838625	2	FB-89	108.8	17.1	105.0	18.3	96.5	P	
F-872	*	6/14/00	794635	838503	2	FB-90	112.3	15.1	108.5	13.9	96.6	P	
F-873		6/14/00	794670	838360	2	FB-89	108.8	17.1	106.7	17.1	98.1	P	
F-874		6/14/00	792710	839135	3	FB-91	114.3	13.7	110.2	15.6	96.4	P	
F-875		6/14/00	794508	838845	2	FB-89	108.8	17.1	105.3	13.4	96.8	F Moist	Fails Moisture
F-875R		6/15/00	794508	838845	2	FB-89	108.8	17.1	106.5	15.5	97.9	P	Retest
F-876		6/14/00	794703	837579	3	FB-89	108.8	17.1	107.1	17.9	98.4	P	
F-877		6/14/00	794752	837782	3	FB-91	114.3	13.7	111.5	12.4	97.6	P	
F-878		6/14/00	794780	837720	3	FB-91	114.3	13.7	112.1	11.7	98.1	P	
F-879		6/14/00	794770	837846	3	FB-91	114.3	13.7	109.9	15.9	96.2	P	
F-880		6/15/00	794355	839261	1	FB-91	114.3	13.7	110.2	12.1	96.4	P	
F-881		6/15/00	794349	839418	1	FB-91	114.3	13.7	109.1	17.8	95.5	P	
F-882	*	6/15/00	794100	839563	1	FB-91	114.3	13.7	109.1	13.2	95.5	P	
F-883		6/15/00	794520	838755	2	FB-91	114.3	13.7	109.3	13.1	95.6	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

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 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments	
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction			
								Requirements:	PM ≥ Opt. - 2	≥ 95			
F-884	6/15/00	794456	838848	2	FB-91	114.3	13.7	111.2	16.7	97.3	P		
F-885	6/15/00	794433	838967	2	FB-91	114.3	13.7	111.3	14.8	97.4	P		
F-886	6/15/00	794409	839043	2	FB-92	117.6	12.8	112.0	13.4	95.2	P		
F-887	6/15/00	794480	838600	2	FB-92	117.6	12.8	112.6	13.8	95.7	P		
F-888	6/15/00	792500	839250	3	FB-92	117.6	12.8	112.7	12.5	95.8	P		
F-889	6/15/00	792460	839260	3	FB-93	108.6	16.1	105.4	14.1	97.1	P		
F-890	6/15/00	792440	839185	3	FB-93	108.6	16.1	106.2	17.7	97.8	P		
F-891	6/15/00	792390	839115	3	FB-93	108.6	16.1	107.4	14.4	98.9	P		
F-892	6/15/00	794320	839323	1	FB-94	111.5	16.0	109.1	16.7	97.8	P		
F-893	6/15/00	794265	839523	1	FB-94	111.5	16.0	108.8	14.4	97.6	P		
F-894	6/15/00	794205	839567	1	FB-94	111.5	16.0	108.3	18.4	97.1	P		
F-895	6/15/00	794355	839099	3	FB-92	117.6	12.8	121.3	14.3	103.1	P		
F-896	6/15/00	794408	838940	3	FB-94	111.5	16.0	107.5	19.3	96.4	P		
F-897	6/15/00	794515	838760	3	FB-94	111.5	16.0	107.3	14.4	96.2	P		
F-898	6/15/00	794599	838593	3	FB-94	111.5	16.0	106.3	16.6	95.3	P		
F-899	6/15/00	792375	839040	3	FB-94	111.5	16.0	111.9	18.7	100.4	P		
F-900	6/19/00	792405	838875	3	FB-94	111.5	16.0	107.9	18.4	96.8	P		
F-901	6/19/00	792487	839060	3	FB-94	111.5	16.0	106.5	16.2	95.5	P		
F-902	6/19/00	792615	839230	3	FB-94	111.5	16.0	108.0	14.9	96.9	P		
F-903	6/19/00	792610	839180	3	FB-93	108.6	16.1	107.0	16.9	98.5	P		
F-904	6/19/00	792510	839040	3	FB-93	108.6	16.1	104.6	15.9	96.3	P		
F-905	6/19/00	792535	838925	3	FB-93	108.6	16.1	104.5	14.4	96.2	P		
F-906	6/19/00	792410	838775	3	FB-95	115.4	13.9	110.8	17.4	96.0	P		
F-907	6/19/00	792780	839330	1	FB-95	115.4	13.9	109.1	15.9	94.5	F Comp	Fails Compaction	
F-907R	6/21/00	792780	839330	1	FB-95	115.4	13.9	112.0	16.2	97.1	P	Retest	
F-908	6/19/00	792897	839422	1	FB-95	115.4	13.9	109.5	16.7	94.9	F Comp	Fails Compaction	
F-908R	*	6/21/00	792897	839422	1	FB-95	115.4	13.9	113.3	16.4	98.2	P	Retest
F-909	6/19/00	792360	839113	3	FB-95	115.4	13.9	106.0	19.4	91.9	F Comp	Fails Compaction	
F-909R	6/21/00	792318	839106	3	FB-95	115.4	13.9	111.1	15.0	96.3	P	Retest	
F-910	6/19/00	792390	839075	3	FB-95	115.4	13.9	110.6	14.5	95.8	P		
F-911	6/19/00	792496	839220	3	FB-93	108.6	16.1	106.6	18.2	98.2	P		
F-912	*	6/19/00	792496	839220	3	FB-93	108.6	16.1	108.3	14.8	99.7	P	
F-913	6/19/00	792520	838832	3	FB-95	115.4	13.9	110.4	17.4	95.7	P		
F-914	6/19/00	792542	838961	3	FB-95	115.4	13.9	110.2	16.5	95.5	P		
F-915	6/19/00	792618	839058	3	FB-95	115.4	13.9	113.6	15.4	98.4	P		

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F-916	6/19/00	792730	839230	3	FB-95	115.4	13.9	113.7	13.7	98.5	P	
F-917	6/21/00	794200	839570	3	FB-95	115.4	13.9	114.2	12.0	99.0	P	
F-918	6/21/00	794118	839700	3	FB-96	116.3	13.1	111.0	11.4	95.4	P	
F-919	6/21/00	794278	839561	3	FB-96	116.3	13.1	112.2	14.1	96.5	P	
F-920	6/21/00	794533	838561	3	FB-96	116.3	13.1	114.4	14.4	98.4	P	
F-921	6/21/00	794564	838440	3	FB-96	116.3	13.1	112.9	11.9	97.1	P	
F-922	6/21/00	794710	838300	3	FB-96	116.3	13.1	111.7	12.3	96.0	P	
F-923	6/21/00	794610	838110	3	FB-96	116.3	13.1	112.2	13.9	96.5	P	
F-924	6/21/00	794685	837930	3	FB-96	116.3	13.1	113.2	12.6	97.3	P	
F-925	*	6/21/00	794550	3	FB-96	116.3	13.1	111.0	14.1	95.4	P	
F-926	6/21/00	792735	839310	2	FB-96	116.3	13.1	112.7	15.4	96.9	P	
F-927	6/21/00	792760	839475	2	FB-96	116.3	13.1	112.1	16.4	96.4	P	
F-928	6/21/00	792600	839158	2	FB-97	115.1	14.7	109.1	16.5	94.8	F Comp	Fails Compaction
F928R	6/22/00	792600	839158	2	FB-97	115.1	14.7	112.2	13.9	97.5	P	Retest
F-929	6/21/00	792940	839608	2	FB-97	115.1	14.7	110.5	20.0	96.0	P	
F-930	6/22/00	794118	839639	3	FB-97	115.1	14.7	109.5	17.4	95.1	P	
F-931	6/22/00	794034	839749	3	FB-98	108.3	16.7	107.5	18.1	99.3	P	
F-932	*	6/22/00	794180	3	FB-98	108.3	16.7	108.1	16.9	99.8	P	
F-933	6/22/00	794340	839767	2	FB-98	108.3	16.7	106.8	14.1	98.6	F Moist	Fails Moisture - No Retest
F-934	6/22/00	794382	839670	2	FB-98	108.3	16.7	105.0	18.8	97.0	P	
F-935	6/22/00	792960	839706	2	FB-98	108.3	16.7	103.2	19.9	95.3	P	
F-936	6/22/00	792940	839755	2	FB-98	108.3	16.7	106.7	17.7	98.5	P	
F-937	6/22/00	793104	839725	2	FB-98	108.3	16.7	107.3	16.1	99.1	P	
F-938	6/22/00	794685	838755	1	FB-98	108.3	16.7	103.4	19.9	95.5	P	
F-939	6/22/00	794245	839450	3	FB-98	108.3	16.7	103.6	18.1	95.7	P	
F-940	*	6/22/00	794360	3	FB-98	108.3	16.7	103.6	19.5	95.7	P	
F-941	6/22/00	794230	839500	3	FB-99	107.5	17.9	105.0	17.9	97.7	P	
F-942	*	6/22/00	794305	4	FB-99	107.5	17.9	110.3	15.9	102.6	P	
F-943	6/22/00	794360	839460	4	FB-99	107.5	17.9	103.8	19.8	96.6	P	
F-944	6/22/00	794410	839318	4	FB-99	107.5	17.9	107.8	18.6	100.3	P	
F-945	6/22/00	794450	839350	3	FB-99	107.5	17.9	108.6	16.9	101.0	P	
F-946	6/22/00	794515	839420	3	FB-99	107.5	17.9	106.6	17.3	99.2	P	
F-947	6/23/00	792450	839170	3	FB-97	115.1	14.7	116.6	13.3	101.3	P	
F-948	6/23/00	792495	839190	3	FB-97	115.1	14.7	111.1	12.7	96.5	P	
F-949	6/23/00	792495	838990	3	FB-97	115.1	14.7	113.0	13.6	98.2	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location		Lift	Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting		Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F-950	6/23/00	792885	839658	3	FB-97	115.1	14.7	111.1	13.4	96.5	P	
F-951	6/23/00	794420	839622	3	FB-99	107.5	17.9	102.1	16.1	95.0	P	
F-952	6/23/00	794524	839627	2	FB-97	115.1	14.7	112.9	15.4	98.1	P	
F-953	* 6/23/00	794445	839740	2	FB-97	115.1	14.7	109.5	13.4	95.1	P	
F-954	6/23/00	792350	838980	4	FB-99	107.5	17.9	105.4	19.1	98.0	P	
F-955	6/23/00	792650	839350	4	FB-99	107.5	17.9	107.0	19.3	99.5	P	
F-956	6/23/00	792350	839000	4	FB-97	115.1	14.7	110.2	14.0	95.7	P	
F-957	6/23/00	792560	839385	4	FB-100	114.5	12.8	112.1	14.9	97.9	P	
F-958	6/23/00	792430	839240	4	FB-99	107.5	17.9	107.3	16.6	99.8	P	
F-959	6/23/00	792560	838850	4	FB-100	114.5	12.8	113.1	15.0	98.8	P	
F-960	* 6/23/00	792630	839125	4	FB-100	114.5	12.8	111.7	15.5	97.6	P	
F-961	6/23/00	792800	839250	4	FB-100	114.5	12.8	109.5	15.1	95.6	P	
F-962	7/18/00	793245	839625	FG	FB-101	118.0	12.7	116.2	15.9	98.5	P	
F-963	7/18/00	793535	839930	FG	FB-101	118.0	12.7	112.4	15.9	95.3	P	
F-964	7/18/00	793440	839790	FG	FB-101	118.0	12.7	115.2	15.5	97.6	P	
F-965	7/19/00	794125	839500	FG	FB-101	118.0	12.7	113.9	16.0	96.5	P	
F-966	7/19/00	794010	839550	FG	FB-101	118.0	12.7	116.7	14.2	98.9	P	
F-967	7/19/00	794045	839470	FG	FB-101	118.0	12.7	111.7	14.8	94.7	F Comp	Fails Compaction
F-967R	7/19/00	794045	839470	FG	FB-101	118.0	12.7	114.3	11.7	96.9	P	Retest
F-968	* 7/19/00	794040	839540	FG	FB-101	118.0	12.7	112.1	15.4	95.0	P	
F-969	7/28/00	792970	839530	FG	FB-101	118.0	12.7	113.9	14.5	96.5	P	
F-970	7/28/00	793510	839620	FG	FB-101	118.0	12.7	115.0	13.7	97.5	P	
F-971	7/28/00	793610	839625	FG	FB-101	118.0	12.7	113.4	11.2	96.1	P	
F-972	7/28/00	793560	839745	FG	FB-102	115.3	13.6	112.8	12.7	97.8	P	
F-973	7/28/00	793300	839850	FG	FB-102	115.3	13.6	112.2	16.1	97.3	P	
F-974	7/28/00	793690	839890	FG	FB-102	115.3	13.6	116.7	11.6	101.2	P	
F-975	8/2/00	794566	838800	FG	FB-102	115.3	13.6	109.6	14.9	95.1	P	
F-976	8/2/00	794620	838700	FG	FB-102	115.3	13.6	111.0	14.5	96.3	P	
F-977	* 8/3/00	794422	838815	FG	FB-102	115.3	13.6	111.9	14.4	97.1	P	
F-978	8/3/00	794550	838950	FG	FB-102	115.3	13.6	111.5	12.6	96.7	P	
F-979	8/3/00	794260	839350	FG	FB-102	115.3	13.6	111.1	11.6	96.4	P	
F-980	8/3/00	794300	839500	FG	FB-102	115.3	13.6	112.1	13.0	97.2	P	
F-981	8/3/00	794420	839415	FG	FB-102	115.3	13.6	111.3	11.7	96.5	P	
F-982	8/3/00	794450	839585	FG	FB-103	116.6	13.4	114.8	12.9	98.5	P	
F-983	* 8/3/00	794505	839025	FG	FB-103	116.6	13.4	111.2	13.8	95.4	P	

Table C.2. Field Compaction Test Results for the Above-Grade Tailings Impoundment Frost Protection Extension

Note: R denotes Re-Test sample. To facilitate review, re-tests are shown directly under the corresponding failed test result (note dates). * Indicates that Sand-Cone Correlation performed.
 Max.= Maximum; FG = Finish Grade; P = Pass; F Comp = Fails Compaction; F Moist = Fails Moisture; F C & M = Fails both test endpoints.
 See NOTES and summary statistics at the end of this table.

Compaction Test ID	Date	Location			Laboratory Standard Proctor			Field Compaction Tests			Pass/Fail	Comments
		Northing	Easting	Lift	Proctor ID	Max. Dry Density (lbs/cu ft)	Optimum Moisture (%)	Dry Density (lbs/cu ft)	Percent Moisture (PM)	Percent Compaction		
								Requirements:	PM ≥ Opt. - 2	≥ 95		
F-984	8/3/00	794290	839240	FG	FB-103	116.6	13.4	116.8	11.7	100.2	P	
F-985	8/3/00	794510	839185	FG	FB-103	116.6	13.4	111.6	15.0	95.7	P	
F-986	8/4/00	794560	838340	FG	FB-103	116.6	13.4	112.6	12.7	96.6	P	
F-987	8/4/00	794480	838490	FG	FB-103	116.6	13.4	112.4	14.5	96.4	P	
F-988	9/5/00	792360	838563	1	FB-104	119.0	13.0	114.7	12.1	96.4	P	
F-989	9/5/00	792343	838675	1	FB-104	119.0	13.0	116.2	11.5	97.6	P	
F-990	9/5/00	792352	838650	2	FB-104	119.0	13.0	113.7	12.0	95.5	P	
F-991	9/6/00	792355	838570	3	FB-104	119.0	13.0	115.6	12.0	97.1	P	
F-992	9/6/00	792345	838570	4	FB-104	119.0	13.0	114.2	11.1	96.0	P	
F-993	* 9/6/00	792353	838565	5	FB-104	119.0	13.0	113.2	14.7	95.1	P	
F-994	9/6/00	792355	838560	6	FB-104	119.0	13.0	113.1	15.0	95.0	P	
F-995	9/6/00	792350	838545	7	FB-104	119.0	13.0	113.1	15.0	95.0	P	
F-996	9/7/00	792360	838580	8	FB-105	111.0	16.3	107.8	15.1	97.1	P	
F-997	9/7/00	792350	838585	9	FB-105	111.0	16.3	110.6	16.3	99.6	P	

Field density and moisture tests were taken using a nuclear density gauge. The gauge was field standardized at each test location and was correlated by a Sand Cone Test at a frequency of one for every five nuclear gauge tests. Field rock corrections were performed at each compaction test location.

49 tests failed compaction (only); 20 tests failed moisture (only), and 2 tests failed both endpoints. One of the failed compaction tests and five of the failed moisture tests were not re-tested. These are not included in the frequency or summary statistics.

<i>Total Number of Tests (N):</i>	993	(N reflects passing tests only)	
<i>Total Quantities placed:</i>	496,555	cubic yards (CY)	
<i>Frequency:</i>	1: 500 CY	Meets plan requirements	
<i>average:</i>	113.5	13.8	97.5
<i>minimum:</i>	102.1	9.0	94.9
<i>maximum:</i>	123.2	22.5	103.1
<i>standard deviation:</i>	3.6	2.2	1.8
<i># Failed:</i>	NA	22	51
<i># Retested:</i>	NA	18	50

Table C.3. Standard Proctor Test Results for the Above-Grade Tailings Impoundment Frost Protection Material Placement

Date	Laboratory Standard Proctor		
	Proctor ID	Maximum Dry Density (lbs/cu ft)	Optimum Moisture (%)
5/18/99	FB-01	116.3	13.7
6/9/99	FB-02	118.4	13.4
6/9/99	FB-03	119.1	13.0
6/10/99	FB-04	113.9	14.5
6/11/99	FB-05	119.7	12.1
6/11/99	FB-06	118.5	13.8
6/11/99	FB-07	118.1	12.1
6/15/99	FB-08	119.8	12.1
6/17/99	FB-09	117.0	14.1
6/21/99	FB-10	116.5	12.8
6/22/99	FB-11	116.8	12.5
6/23/99	FB-12	117.6	13.3
6/23/99	FB-13	115.9	14.3
6/24/99	FB-14	118.1	12.5
7/1/99	FB-15	115.8	14.6
6/29/99	FB-16	119.0	13.0
7/6/99	FB-17	119.0	12.6
7/7/99	FB-18	118.7	12.3
7/7/99	FB-19	116.7	12.2
7/7/99	FB-20	118.0	13.0
7/7/99	FB-21	117.8	12.0
7/7/99	FB-22	116.8	12.2
7/8/99	FB-23	118.8	12.5
7/9/99	FB-24	120.0	12.0
7/9/99	FB-25	119.0	12.5
7/14/99	FB-26	118.9	12.0
7/14/99	FB-27	117.8	12.7
7/15/99	FB-28	116.4	13.4
7/15/99	FB-29	115.0	14.0
7/12/99	FB-30	118.5	13.0
7/12/99	FB-31	119.1	12.7
7/13/99	FB-32	119.5	11.4
7/21/99	FB-33	117.8	11.6
7/22/99	FB-34	117.1	13.8
7/23/99	FB-35	115.8	12.9
7/28/99	FB-36	116.3	13.5
7/28/99	FB-37	115.6	13.8
7/29/99	FB-38	117.6	13.0
8/4/99	FB-39	118.2	13.1
8/5/99	FB-40	116.3	13.0
8/5/99	FB-41	116.9	12.2
8/5/99	FB-42	117.3	12.4
8/5/99	FB-43	116.8	13.2
8/5/99	FB-44	117.1	11.4
8/6/99	FB-45	117.9	13.5
8/6/99	FB-46	117.3	12.9
8/6/99	FB-47	118.4	13.0
8/9/99	FB-48	114.1	13.2

Table C.3. Standard Proctor Test Results for the Above-Grade Tailings Impoundment Frost Protection Material Placement

Date	Laboratory Standard Proctor		
	Proctor ID	Maximum Dry Density (lbs/cu ft)	Optimum Moisture (%)
8/10/99	FB-49	116.4	12.8
8/10/99	FB-50	115.6	12.3
8/10/99	FB-51	117.8	12.3
8/10/99	FB-52	117.9	12.5
8/11/99	FB-53	118.8	12.5
8/10/99	FB-54	116.6	13.0
8/11/99	FB-55	118.4	12.2
8/11/99	FB-56	118.8	12.0
8/11/99	FB-57	120.2	11.5
8/12/99	FB-58	117.2	12.5
8/12/99	FB-59	118.5	12.2
8/12/99	FB-60	116.7	13.0
8/13/99	FB-61	117.7	12.5
8/13/99	FB-62	117.8	12.5
8/13/99	FB-63	118.8	12.8
8/16/99	FB-64	118.5	12.0
8/17/99	FB-65	119.5	12.3
8/17/99	FB-66	118.9	12.4
8/18/99	AREA 2 Backfill	116.4	13.3
8/19/99	FB-67	119.5	12.1
8/24/99	FB-68	120.3	10.6
8/24/99	FB-69	119.0	12.5
8/31/99	FB-70	117.2	12.7
5/18/00	FB-71	119.9	12.0
5/26/00	FB-72	121.0	11.0
5/30/00	FB-73	121.9	11.9
5/31/00	FB-74	112.4	14.8
6/1/00	FB-75	117.9	12.0
6/2/00	FB-76	118.8	12.8
6/2/00	FB-77	110.2	14.9
6/5/00	FB-78	115.5	13.2
6/6/00	FB-79	112.3	14.9
6/6/00	FB-80	108.9	17.5
6/7/00	FB-81	107.6	17.5
6/8/00	FB-82	116.8	13.9
6/8/00	FB-83	113.8	15.0
6/9/00	FB-84	109.7	16.5
6/9/00	FB-85	109.1	15.8
6/12/00	FB-86	111.7	15.9
6/12/00	FB-87	109.0	15.3
6/12/00	FB-88	113.0	15.8
6/13/00	FB-89	108.8	17.1
6/13/00	FB-90	112.3	15.1
6/15/00	FB-91	114.3	13.7
6/15/00	FB-92	117.6	12.8
6/19/00	FB-93	108.6	16.1
6/19/00	FB-94	111.5	16.0
6/20/00	FB-95	115.4	13.9

Table C.3. Standard Proctor Test Results for the Above-Grade Tailings Impoundment Frost Protection Material Placement

Date	Laboratory Standard Proctor		
	Proctor ID	Maximum Dry Density (lbs/cu ft)	Optimum Moisture (%)
6/20/00	FB-96	116.3	13.1
6/20/00	FB-97	115.1	14.7
6/22/00	FB-98	108.3	16.7
6/22/00	FB-99	107.5	17.9
6/26/00	FB-100	114.5	12.8
7/18/00	FB-101	118.0	12.7
7/28/00	FB-102	115.3	13.6
8/3/00	FB-103	116.6	13.4
8/24/00	FB-104	119.0	13.0
9/7/00	FB-105	111.0	16.3

<i>count:</i>	106	106
<i>average:</i>	116.4	13.3

<i>minimum:</i>	107.5	10.6
<i>maximum:</i>	121.9	17.9
<i>standard deviation:</i>	3.2	1.5

Total cubic yards placed: 496,555

Proctor Frequency: 1: 4684 CY Meets the required frequency of 1:5000 CY placed.

Table C.4. Sand-Cone Correlation Documentation for the AGTI Frost Protection Placement

Date	Compaction Test ID	Nuclear Gauge Test		Sand-Cone Compaction Tests		Sand-Cone Correlation Results	
		In-Place Wet Unit Weight (lbs/cu ft)	Moisture Content (%)	In-Place Wet Unit Weight (lbs/cu ft)	Moisture Content (%)	Wet Unit Weight Variation (%)	Moisture Content Variation (%)
6/10/99	F002	130.9	12.1	135.1	11.4	3.2	-0.7
6/10/99	F006	128.1	9.6	126.9	9.1	-0.9	-0.5
6/11/99	F017	131.1	12.9	131.7	12.3	0.5	-0.6
6/14/99	F029	126.8	11.9	127.2	11.6	0.3	-0.3
6/15/99	F040	131.7	15.2	130.2	13.7	-1.1	-1.5
6/16/99	F050	129.5	15.3	127.8	14.9	-1.3	-0.4
6/21/99	F060	131.7	15.8	128.0	15.0	-2.8	-0.8
6/22/99	F070	133.2	14.1	132.2	13.2	-0.8	-0.9
6/22/99	F078	130.4	13.4	129.3	13.7	-0.8	0.3
6/23/99	F090	130.9	15.0	128.0	14.1	-2.2	-0.9
6/23/99	F098	132.8	12.9	129.2	12.5	-2.7	-0.4
6/25/99	F112	134.5	12.9	133.6	12.7	-0.7	-0.2
6/28/99	F118	128.0	13.7	129.0	12.1	0.8	-1.6
7/2/99	F135	130.4	14.3	127.4	14.1	-2.3	-0.2
7/2/99	F140	133.6	13.6	134.0	13.9	0.3	0.3
7/6/99	F149	127.0	10.6	127.2	11.5	0.2	0.9
7/6/99	F150R	127.1	10.2	126.0	9.4	-0.9	-0.8
7/7/99	F168	127.6	16.2	130.0	16.0	1.9	-0.2
7/7/99	F180	134.8	11.1	134.3	10.2	-0.4	-0.9
7/9/99	F191	129.6	12.6	129.3	11.4	-0.2	-1.2
7/12/99	F201	129.1	14.5	130.7	13.3	1.2	-1.2
7/12/99	F210	125.0	7.6	125.7	8.0	0.6	0.4
7/13/99	F220	126.2	11.1	126.6	10.7	0.3	-0.4
7/14/99	F227	131.9	10.7	129.1	10.9	-2.1	0.2
7/15/99	F245	130.8	13.8	134.6	12.6	2.9	-1.2
7/15/99	F250	130.2	14.2	131.7	14.1	1.2	-0.1
7/16/99	F261	132.5	12.1	130.5	13.2	-1.5	1.1
7/20/99	F271	133.0	12.8	133.9	12.7	0.7	-0.1
7/20/99	F278	134.5	12.3	135.0	11.8	0.4	-0.5
7/22/99	F291	130.7	13.9	132.6	12.4	1.5	-1.5
7/26/99	F303R	130.5	14.2	131.9	15.0	1.1	0.8
7/28/99	F310	129.1	12.0	128.6	11.0	-0.4	-1.0
7/28/99	F322	126.5	13.0	128.4	13.1	1.5	0.1
7/29/99	F333	128.9	12.7	128.6	11.2	-0.2	-1.5
8/2/99	F340	127.0	13.0	128.6	11.7	1.3	-1.3
8/3/99	F349	123.5	10.1	130.0	10.5	5.3	0.4
8/3/99	F353	130.8	13.7	135.3	13.2	3.4	-0.5
8/3/99	F360	133.7	13.5	132.4	12.3	-1.0	-1.2
8/4/99	F370	132.5	16.2	132.6	15.4	0.1	-0.8
8/4/99	F381	130.6	11.3	131.2	10.8	0.5	-0.5
8/5/99	F390	132.7	13.3	132.5	13.3	-0.2	0.0
8/5/99	F401	124.4	10.9	126.2	9.8	1.4	-1.1
8/6/99	F410	131.9	14.3	133.8	13.8	1.4	-0.5
8/9/99	F418	128.7	14.3	128.5	14.5	-0.2	0.2
8/9/99	F429	124.7	11.9	126.7	12.1	1.6	0.2
8/9/99	F436	130.8	15.4	131.1	15.9	0.2	0.5
8/10/99	F446	129.7	12.1	125.2	12.0	-3.5	-0.1
8/10/99	F456	132.5	12.2	131.8	13.4	-0.5	1.2
8/10/99	F468	124.7	11.3	126.4	10.7	1.4	-0.6
8/11/99	F490	130.8	11.9	135.7	10.1	3.7	-1.8
8/12/99	F501	129.8	10.7	126.6	10.6	-2.5	-0.1
8/12/99	F511	132.9	10.4	128.2	12.1	-3.5	1.7
8/12/99	F519	132.7	11.7	133.5	11.5	0.6	-0.2
8/13/99	F531	127.4	12.7	127.7	12.1	0.2	-0.6
8/16/99	F540	126.8	11.7	128.4	11.1	1.3	-0.6
8/16/99	F550	132.2	10.5	134.0	10.7	1.4	0.2

Table C.4. Sand-Cone Correlation Documentation for the AGTI Frost Protection Placement

Date	Compaction Test ID	Nuclear Gauge Test		Sand-Cone Compaction Tests		Sand-Cone Correlation Results	
		In-Place Wet Unit Weight (lbs/cu ft)	Moisture Content (%)	In-Place Wet Unit Weight (lbs/cu ft)	Moisture Content (%)	Wet Unit Weight Variation (%)	Moisture Content Variation (%)
8/17/99	F561	127.3	9.9	129.2	10.0	1.5	0.1
8/17/99	F573	124.3	11.1	122.9	10.6	-1.1	-0.5
8/18/99	F581	132.3	11.6	133.9	11.3	1.2	-0.3
8/19/99	F600	135.2	13.2	137.2	12.4	1.5	-0.8
8/20/99	F610	129.7	10.6	131.6	11.5	1.5	0.9
8/20/99	F620	130.3	14.9	131.5	15.0	0.9	0.1
8/23/99	F630	129.1	12.8	131.6	11.8	1.9	-1.0
8/24/99	F641	126.0	10.5	128.0	10.7	1.6	0.2
8/24/99	F650	114.5	11.2	116.3	11.4	1.6	0.2
8/26/99	F664	129.0	13.2	129.4	12.9	0.3	-0.3
8/27/99	F670	131.6	15.0	133.6	14.7	1.5	-0.3
8/31/99	F681	134.0	10.9	132.0	11.3	-1.5	0.4
9/1/99	F685	125.7	10.9	129.7	10.2	3.2	-0.7
5/30/00	F-706	129.0	8.2	126.9	8.3	-1.6	0.1
5/30/00	F-707	127.9	9.7	131.8	9.1	3.0	-0.6
5/31/00	F-725	136.0	12.4	134.3	11.2	-1.2	-1.2
6/1/00	F-729	131.5	10.8	129.4	10.4	-1.6	-0.4
6/2/00	F-737	121.3	13.4	124.0	13.3	2.2	-0.1
6/5/00	F-757	128.5	12.8	129.9	13.5	1.1	0.7
6/6/00	F-777	125.3	13.9	125.9	14.8	0.5	0.9
6/7/00	F-786	122.5	12.8	122.2	13.1	-0.2	0.3
6/8/00	F-802	130.3	12.7	131.1	11.6	0.6	-1.1
6/8/00	F-817	128.0	17.8	123.5	16.9	-3.5	-0.9
6/9/00	F-829	124.7	18.0	125.9	17.6	1.0	-0.4
6/9/00	F-834	123.5	14.8	123.2	15.1	-0.2	0.3
6/12/00	F-837	130.4	19.0	133.5	18.5	2.4	-0.5
6/12/00	F-838	126.4	16.4	130.3	15.5	3.1	-0.9
6/13/00	F-851	123.5	14.0	122.9	14.7	-0.5	0.7
6/14/00	F-872	125.7	13.0	126.1	12.3	0.3	-0.7
6/15/00	F-882	126.9	11.8	126.4	11.5	-0.4	-0.3
6/19/00	F-912	124.4	14.8	122.2	13.7	-1.8	-1.1
6/21/00	F-769R	126.4	17.6	125.3	17.3	-0.9	-0.3
6/21/00	F-908R	131.8	16.4	129.4	16.0	-1.8	-0.4
6/21/00	F-925	126.7	14.1	125.5	13.5	-0.9	-0.6
6/22/00	F-932	126.4	16.9	124.3	14.9	-1.7	-2.0
6/22/00	F-940	123.8	19.5	123.7	14.1	-0.1	-5.4
6/22/00	F-942	127.8	15.9	124.4	13.4	-2.7	-2.5
6/23/00	F-953	124.2	13.4	125.8	13.0	1.3	-0.4
6/23/00	F-960	129.1	15.5	128.0	14.9	-0.9	-0.6
7/19/00	F-968	129.3	15.4	128.8	13.6	-0.4	-1.8
8/3/00	F-977	128.0	14.4	129.5	13.4	1.2	-1.0
8/3/00	F-983	128.9	12.7	131.1	11.2	1.7	-1.5
9/6/00	F-993	129.9	14.7	130.9	14.2	0.8	-0.5

Number of sand-cone tests: 99
 average percent variation (on absolute value): **1.4** **0.7**
 standard deviation: 1.0 0.7

Note:

For the AGTI frost protection layer, a sand-cone correlation test was performed for every ten nuclear gauge tests. Correlations were deemed acceptable if the average of ten nuclear test results vs. sand cone test results comparisons met the following criteria: 1) sand-cone method wet density: +/- 3%; and 2) sand-cone method moisture content: +/- 2%. As shown above, most results closely correlated and variations were generally well below the above criteria. In cases where discrete variations exceeded these criteria (see highlighted cells above), the running averages were still well below 2% for both endpoints.

**Table C.5. Soil Classification Test Results for the Above-Grade Tailings Impoundment Design Enhancement:
Frost Protection Extension: 1999-2000**

Date Sampled	Gradation Sample ID	PARTICLE SIZE ANALYSIS												Atterberg Sample ID	Atterberg Limits		Unified Soil Classification
		Seive Size (% Passing)													Liquid Limit	Plastic Index	
		6"	3"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200				
															Plan Requirements:		SC and/or S-SM
5/18/99	FB-01	-	100	99	95.6	94	92.1	89.1	81.6	68.4	53.8	41.7	34.0	FB-01	36	19	SC
6/9/99	FB-02	-	-	-	100.0	96.0	93.3	88.9	81.5	68.6	54.2	42.0	33.8	FB-02	35	18	SC
6/9/99	FB-03	-	100	98	96.4	96	93.0	88.3	77.4	58.6	41.0	29.1	22.4	FB-03	30	8	SC
6/9/99	FC-004	-	-	100	99.6	98	94.5	90.3	83.1	70.7	56.7	45.6	37.6	FC-004	35	17	SC
6/9/99	FC-008	-	-	100	98.4	93	89.9	85.6	77.9	65.9	52.3	41.6	34.3	FC-008	33	17	SC
6/9/99	FC-012	-	-	-	100.0	98.6	96.4	91.1	80.6	64.1	46.5	34.9	28.3	FC-012	32	14	SC
6/10/99	FB-04	-	-	100	96.5	92.6	90.9	86.4	76.1	58.8	42.3	31.6	25.3	FB-04	38	22	SC
6/11/99	FC-016	-	-	100	97.7	95.7	93.8	90.0	81.4	67.7	53.5	43.9	36.4	FC-016	35	17	SC
6/11/99	FC-020	-	100	97	95.9	93.3	90.8	85.0	74.0	56.2	37.6	25.5	19.3	FC-020	33	13	SC
6/11/99	FC-024	-	-	-	100.0	98	95.6	90.7	81.7	66.7	50.2	38.4	31.1	FC-024	33	15	SC
6/11/99	FC-028	-	-	100	99.3	97	94.9	90.0	79.5	61.8	43.3	31.6	25.3	FC-028	32	12	SC
6/11/99	FB-06	-	-	100	98.0	96.0	92.9	88.6	79.8	65.0	49.9	38.7	31.2	FB-06	34	15	SC
6/11/99	FB-05	-	-	100	96.7	95	91.8	87.5	77.9	61.5	45.7	35.0	28.1	FB-05	30	10	SC
6/11/99	FB-07	-	100	99	95	92.6	89.6	86.1	78.5	64.3	48.6	36.2	28.3	FB-07	33	13	SC
6/14/99	FC-032	-	-	-	100.0	97.2	94.9	90.3	80.8	64.3	46.8	35.6	29.3	FC-032	34	15	SC
6/14/99	FC-036	-	-	-	100.0	97.4	95.3	90.1	79.0	60.5	41.4	29.8	23.4	FC-036	31	10	SC
6/15/99	FC-040	-	-	100.0	99.2	98.2	96.2	90.6	79.1	60.7	42.3	31.1	24.6	FC-040	32	12	SC
6/15/99	FC-044	-	-	100.0	99	97.5	92.5	91.5	84.9	74.2	61.2	50.7	42.0	FC-044	36	19	SC
6/15/99	FB-08	-	-	100.0	98.3	97	93.6	89.4	79.8	63.2	47.3	36.5	30.6	FB-08	33	14	SC
6/17/99	FB-09	-	-	100	98.0	89.0	93.5	89.7	82.1	69.3	56.1	45.3	37.7	FB-09	37	21	SC
6/19/99	FC-048	-	-	100	99.3	96.9	94.7	90.1	82.5	69.9	55.8	45.3	38.2	FC-048	38	21	SC
6/19/99	FC-052	-	-	100	99.1	95.1	91.9	88.2	81.4	70.3	57.7	47.8	41.1	FC-052	40	23	SC
6/21/99	FB-10	-	-	100	97.8	95.7	93	90.0	83.5	71.8	59.5	49.2	41.6	FB-10	37	21	SC
6/21/99	FC-056	-	-	-	100.0	97.7	95.7	91.4	83.2	69.3	53.9	42.7	35.7	FC-056	36	18	SC
6/21/99	FC-060	-	-	-	100	97.5	94.8	90.8	83.9	73.4	61.4	51.6	44.7	FC-060	42	25	SC
6/21/99	FC-064	-	-	100	98	96.2	94.3	90.5	83.2	70.8	56.3	45.3	37.9	FC-064	37	19	SC
6/22/99	FB-11	-	-	100	98.3	97.2	93.6	89.4	81.4	68.3	53.5	41.2	33.0	FB-11	33	14	SC
6/22/99	FC-068	-	-	100	98.8	97.3	95.4	89.6	78.4	60.6	42.7	32.2	26.4	FC-068	34	15	SC
6/22/99	FC-072	-	-	-	100.0	97.0	94.6	90.8	83.5	72.1	58.7	48.7	42.2	FC-072	40	24	SC
6/22/99	FC-076	-	-	-	100.0	96.1	93.5	89.6	82.1	69.9	56.2	46.1	39.5	FC-076	40	24	SC
6/22/99	FC-080	-	-	-	100.0	98.1	95.7	91.0	81.8	67.1	50.9	38.6	31.6	FC-080	36	18	SC
6/23/99	FB-12	-	-	100	96.7	95.4	92.9	88.6	80.6	67.4	53.8	43.3	35.7	FB-12	36	19	SC
6/23/99	FB-13	-	-	100	97.4	95	92.2	88.2	80.3	63.7	48.2	37.2	29.5	FB-13	34	17	SC
6/23/99	FC-084	-	-	100	96.8	94.8	92.1	87.2	77.5	62.1	45.5	34.9	29.1	FC-084	36	18	SC
6/23/99	FC-088	-	-	100	97	95.1	92.1	88.1	80.9	69.5	56.0	44.3	36.4	FC-088	37	19	SC
6/23/99	FC-092	-	100	94	90.9	89.1	86.5	81.7	72.9	60.0	46.5	37.2	31.5	FC-092	36	18	SC
6/23/99	FC-096	-	-	100	97	95.2	92.8	88.2	79.2	63.8	47.2	35.7	29.2	FC-096	34	15	SC
6/24/99	FB-14	-	-	100	95	92.2	88.3	84.2	77.3	63.1	49.5	39.7	32.9	FB-14	35	17	SC
6/25/99	FC-100	-	-	100	98.3	96.0	93.5	89.8	82.1	69.5	54.2	41.8	34.5	FC-100	37	21	SC
6/25/99	FC-104	-	-	100	94.3	88.9	82.4	76.0	66.4	55.0	43.9	35.7	30.1	FC-104	39	20	SC
6/25/99	FC-108	-	100	98	96.2	92.7	89.3	85.4	77.0	64.4	49.9	38.5	31.5	FC-108	33	14	SC
6/25/99	FC-112	-	-	100	98.2	96.3	93.8	89.4	81.8	70.0	55.9	44.8	37.1	FC-112	35	17	SC
6/28/99	FC-116	-	-	100	98.5	97.2	95.3	90.8	82.2	68.8	53.3	40.8	33.6	FC-116	36	18	SC
6/29/99	FB-16	-	100	94	90.7	87.2	83.4	78.6	70.9	57.7	46.3	37.2	30.6	FB-16	36	18	SC
6/30/99	FC-120	-	-	100	96.7	93.6	90.2	85.2	76.6	64.2	50.3	39.2	31.8	FC-120	33	15	SC

**Table C.5. Soil Classification Test Results for the Above-Grade Tailings Impoundment Design Enhancement:
Frost Protection Extension: 1999-2000**

Date Sampled	Gradation Sample ID	PARTICLE SIZE ANALYSIS												Atterberg Sample ID	Atterberg Limits		Unified Soil Classification
		Seive Size (% Passing)													Liquid Limit	Plastic Index	
		6"	3"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200				
															Plan Requirements:		SC and/or S-SM
6/30/99	FC-124	-	-	100	99.0	96.5	91.8	86.5	78.0	66.6	54.7	45.7	38.7	FC-124	38	21	SC
7/1/99	FC-128	-	100	92	88	86.0	84.0	80.8	74.2	63.6	50.2	39.5	32.5	FC-128	35	17	SC
7/1/99	FC-132	-	-	100	99	98.0	95.4	92.9	88.3	81.6	73.7	67.1	60.9	FC-132	47	30	SC
7/2/99	FC-136	-	-	100	96.2	93.3	88.2	84.0	76.3	64.9	52.1	42.3	35.1	FC-136	34	18	SC
7/2/99	FC-140	-	-	100	98.2	96.4	94.5	90.9	83.5	71.0	56.2	44.7	37.1	FC-140	37	21	SC
7/2/99	FC-144	-	-	100	97.4	96.6	94.7	90.6	83.0	69.6	53.4	40.9	33.2	FC-144	35	17	SC
7/2/99	FC-148	-	-	100	99.7	97.8	94.9	89.4	78.3	59.9	41.0	30.2	24.4	FC-148	32	12	SC
7/6/99	FB-17			100	97.7	96.7	94.5	90.3	82.1	69.2	55.7	45.3	38.6	FB-17	-	-	-
7/6/99	FC-152	-	-	100	99.3	98.2	96.2	92.3	83.8	69.9	54.2	42.9	35.5	FC-152	35	18	SC
7/6/99	FC-156	-	-	100.0	99.2	98.3	96.2	91.8	82.1	66.0	48.7	38.0	31.5	FC-156	36	18	SC
7/6/99	FC-160	-	-	100	99.2	98.0	95.4	92.2	85.9	74.9	61.5	50.8	43.4	FC-160	37	20	SC
7/6/99	FC-164	-	-	100	99.1	98.0	95.8	92.7	85.8	74.4	60.5	48.9	41.0	FC-164	39	22	SC
7/7/99	FB-18	-	100	100	97.3	95.3	92.1	88.0	80.0	66.0	51.8	41.2	34.2	FB-18	37	20	SC
7/7/99	FB-19	-	-	-	100.0	96.7	94.4	90.2	81.0	66.0	50.9	39.7	32.5	FB-19	35	17	SC
7/7/99	FB-21	-	-	-	-	100.0	93.7	90.0	81.6	67.8	53.2	41.6	34.0	FB-21	37	19	SC
7/7/99	FB-22	-	-	-	-	100.0	92.8	89.0	80.8	67.3	53.3	42.3	34.9	FB-22	34	17	SC
7/7/99	FC-168	-	-	100	97.2	95.8	93.4	89.5	82.5	71.1	57.5	46.6	39.2	FC-168	38	21	SC
7/7/99	FC-172	-	-	100	98.8	96.9	94.4	91.1	83.8	72.3	59.8	50.6	43.6	FC-172	41	21	SC
7/7/99	FC-176	-	-	100	99.7	98.9	96.9	93.1	86.1	73.8	58.2	46.2	38.3	FC-176	35	18	SC
7/7/99	FC-180	-	-	100	99.1	98.1	96.1	91.7	82.9	66.9	48.9	37.3	30.9	FC-180	34	16	SC
7/7/99	FC-184	-	-	100.0	98.7	96.2	94.1	90.4	82.0	68.1	53.0	42.9	36.2	FC-184	37	20	SC
7/7/99	FC-188	-	-	100	98.5	96.7	94.8	90.2	80.5	65.2	49.7	39.4	33.2	FC-188	36	19	SC
7/8/99	FB-23			100.0	97.4	94.6	91.9	87.7	78.7	63.9	48.7	37.0	29.3	FB-23	32	13	SC
7/9/99	FB-24	-	-	-	-	100.0	96.8	92.3	82.7	67.1	50.5	39.8	32.9	FB-24	33	14	SC
7/9/99	FB-25			100	98	94.4	93.6	91.1	82.9	67.9	53.2	42.7	36.3	FB-25	35	17	SC
7/9/99	FC-192	-	-	100	99.1	98.4	96.8	92.6	83.8	68.7	51.8	40.7	34.2	FC-192	35	18	SC
7/9/99	FC-196	-	-	100	97.2	96.4	93.9	89.6	80.2	64.8	49.2	39.3	33.1	FC-196	37	20	SC
7/12/99	FB-30			100.0	97.4	92.2	89.7	84.9	95.9	61.1	46.8	36.2	29.1	FB-30	33	16	SC
7/12/99	FB-31			100.0	96.7	93.0	90.7	85.7	74.4	55.8	38.1	27.4	21.1	FB-31	31	10	SC
7/12/99	FC-200	-	100	92	91.7	90.1	87.7	82.5	72.2	55.5	36.7	26.3	20.7	FC-200	30	8	SC
7/12/99	FC-204	-	-	100	98.9	96.7	94.6	90.0	81.7	68.1	53.0	42.5	35.5	FC-204	36	19	SC
7/12/99	FC-208	-	-	100	98.2	96.8	93.8	88.7	78.4	61.3	43.5	33.1	27.2	FC-208	33	14	SC
7/12/99	FC-212	-	-	100	99.5	97.8	95.8	91.5	80.1	61.8	44.5	34.5	28.8	FC-212	32	13	SC
7/13/99	FB-32			100.0	93.2	86.0	83.4	79.4	70.2	55.0	41.0	31.6	25.6	FB-32	32	13	SC
7/13/99	FC-216	-	100	93	91.0	88.9	86.0	91.1	71.7	56.9	41.3	31.5	25.0	FC-216	30	10	SC
7/13/99	FC-220	-	-	-	100.0	98.4	96.7	92.0	79.8	59.5	39.5	28.0	22.4	FC-220	NP	NV	-
7/13/99	FC-224	-	-	100	97.1	95.6	93.4	88.7	77.9	60.2	43.1	32.6	26.5	FC-224	32	13	SC
7/14/99	FB-26		100	97	94.2	91.1	87.7	83.4	74.7	60.7	46.6	36.3	29.6	FB-26	36	18	SC
7/14/99	FB-27	100	98	97	95.0	93.3	92.3	90.3	82.6	68.3	53.6	43.3	36.6	FB-27	-	-	-
7/14/99	FC-228	-	-	-	100.0	98.8	96.5	92.0	81.6	64.7	47.3	36.0	29.4	FC-228	34	16	SC
7/14/99	FC-232	-	-	100	97.1	94.4	91.7	86.6	76.4	60.4	43.5	32.5	25.9	FC-232	32	12	SC
7/14/99	FC-236	-	-	100	98.0	96.7	94.4	89.7	80.3	65.6	50.4	39.5	31.8	FC-236	35	16	SC
7/15/99	FB-28	-	-	100.0	97.7	95.7	92.7	87.6	77.8	63.3	49.8	40.1	33.3	FB-28	-	-	-
7/15/99	FB-29			100	97.5	95.8	-	-	-	-	-	-	-	FB-29	-	-	-
7/15/99	FC-240	-	-	100	96.9	94.8	92.2	87.9	80.3	68.2	53.9	42.3	34.0	FC-240	35	16	SC

**Table C.5. Soil Classification Test Results for the Above-Grade Tailings Impoundment Design Enhancement:
Frost Protection Extension: 1999-2000**

Date Sampled	Gradation Sample ID	PARTICLE SIZE ANALYSIS												Atterberg Sample ID	Atterberg Limits		Unified Soil Classification
		Seive Size (% Passing)													Liquid Limit	Plastic Index	
		6"	3"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200				
															Plan Requirements:		SC and/or S-SM
7/15/99	FC-244	-	-	100	99.3	98.4	96.5	92.2	84.5	72.1	57.9	46.6	38.6	FC-244	35	17	SC
7/15/99	FC-248	-	-	100.0	99.5	96.9	94.9	91.1	83.8	71.7	57.0	45.0	37.3	FC-248	36	19	SC
7/15/99	FC-252	-	-	100	98.8	97.5	95.7	91.7	83.3	69.3	53.5	41.9	34.9	FC-252	35	17	SC
7/15/99	FC-256	-	-	100	98.0	96.9	95.1	90.2	80.8	65.6	50.0	39.3	32.2	FC-256	34	14	SC
7/16/99	FC-260	-	-	100	99.5	98.3	96.1	92.3	83.8	70.2	55.8	45.5	38.8	FC-260	36	19	SC
7/16/99	FC-264	-	-	100.0	97.5	97.1	94.4	89.9	80.8	65.8	49.7	38.6	32.1	FC-264	33	15	SC
7/16/99	FC-268	-	-	100	97.8	95.8	94.1	90.9	84.1	72.6	58.6	47.5	40.5	FC-268	36	19	SC
7/20/99	FC-272	-	-	100	96.8	95.9	93.7	90.1	82.7	70.4	56.0	45.0	37.4	FC-272	36	18	SC
7/21/99	FB-33	-	-	-	-	100.0	96.3	92.3	83.5	69.4	54.0	42.8	35.0	FB-33	33	16	SC
7/21/99	FC-280	-	-	100.0	99.0	97.5	95.2	91.4	83.4	71.4	57.8	46.9	39.9	FC-280	38	20	SC
7/22/99	FB-34	-	-	-	-	100.0	96.8	93.0	84.8	71.5	56.9	46.0	38.8	FB-34	36	19	SC
7/22/99	FC-284	-	-	100	96.1	95.0	92.4	89.5	82.8	71.8	58.6	48.0	41.0	FC-284	40	23	SC
7/22/99	FC-288	-	100	98	97.9	97.1	95.0	91.7	84.6	72.4	58.1	46.7	39.6	FC-288	38	21	SC
7/23/99	FB-35	-	-	-	-	100.0	96.7	92.7	84.1	70.1	54.5	43.0	35.9	FB-35	35	18	SC
7/23/99	FC-292	-	-	100	99.8	98.5	96.1	91.8	84.0	71.2	56.5	44.9	38.0	FC-292	37	20	SC
7/23/99	FC-296	-	-	100	97.3	96.2	94.0	90.5	83.7	72.7	59.5	48.9	42.1	FC-296	39	23	SC
7/23/99	FC-300	-	100	94	92.4	91.5	89.7	86.3	79.6	68.4	54.9	44.0	36.8	FC-300	37	20	SC
7/23/99	FC-304	-	100	97.0	96.3	94.9	92.6	88.7	81.9	71.1	58.6	47.9	39.9	FC-304	39	21	SC
7/28/99	FB-36	-	-	-	-	100.0	98.3	94.9	87.4	75.1	60.5	48.9	41.0	FB-36	38	21	SC
7/28/99	FB-37	-	-	-	-	100.0	97.5	94.4	87.5	76.0	61.8	49.1	39.8	FB-37	35	17	SC
7/28/99	FC-308	-	-	100	98.0	96.0	93.3	87.9	78.0	63.4	48.7	37.8	30.3	FC-308	36	16	SC
7/28/99	FC-312	-	-	100.0	97.1	95.7	93.7	89.2	80.2	64.4	47.4	35.9	29.5	FC-312	35	17	SC
7/28/99	FC-316	-	100	97	94.7	92.3	89.8	88.1	75.6	60.1	43.7	32.6	26.2	FC-316	33	12	SC
7/28/99	FC-320	-	-	100	99.2	97.8	95.8	90.9	81.4	65.4	48.5	37.2	30.2	FC-320	36	17	SC
7/28/99	FC-324	-	-	100.0	99.2	98.7	96.9	91.8	82.1	66.9	50.9	39.7	32.3	FC-324	36	17	SC
7/28/99	FC-328	-	-	100.0	99.1	97.0	94.5	89.7	80.2	65.7	50.5	39.7	32.6	FC-328	35	16	SC
7/28/99	FC-332	-	-	100	99.6	98.5	96.3	92.4	84.2	71.7	57.7	47.1	39.3	FC-332	37	20	SC
7/29/99	FB-38	-	-	-	-	100.0	97.2	93.3	86.2	74.6	60.4	49.1	41.2	FB-38	38	21	SC
8/2/99	FC-336	-	100	96.1	95	92.9	91.4	86.8	77.7	63.7	49.4	39.6	33.6	FC-336	37	19	SC
8/2/99	FC-340	-	-	100	98.6	96.7	94.2	90.5	83.6	72.2	58.4	47.7	40.0	FC-340	37	20	SC
8/3/99	FC-344	-	-	100	97.9	96.2	94.2	90.6	84.0	73.4	60.2	49.2	41.7	FC-344	38	20	SC
8/3/99	FC-348	-	-	100.0	95.7	92.7	88.7	82.2	72.8	60.3	48.0	39.7	32.9	FC-348	36	19	SC
8/3/99	FC-352	-	-	100.0	98.6	98.0	95.5	90.7	81.8	67.6	52.4	41.7	34.7	FC-352	36	18	SC
8/3/99	FC-356	-	100	97	96.8	96.0	93.9	90.1	83.0	71.2	57.6	47.2	39.5	FC-356	36	19	SC
8/3/99	FC-360	-	-	-	100.0	99.1	97.3	93.6	95.7	73.0	58.7	47.6	40.1	FC-360	37	20	SC
8/4/99	FB-39	-	-	-	-	100.0	97.4	93.0	84.1	70.1	55.0	44.0	36.4	FB-39	36	19	SC
8/4/99	FC-364	-	-	100	97.8	96.4	94.3	89.7	82.3	70.5	56.7	46.1	38.5	FC-364	38	20	SC
8/4/99	FC-368	-	-	100.0	99.8	98.8	96.1	92.0	84.2	71.7	57.5	46.5	39.4	FC-368	37	20	SC
8/4/99	FC-372	-	-	100	96.0	94.6	92.7	88.9	81.5	69.5	55.6	45.0	37.8	FC-372	38	21	SC
8/4/99	FC-376	-	-	-	100.0	99.0	96.5	92.4	82.8	66.2	48.6	36.9	30.2	FC-376	33	14	SC
8/4/99	FC-380	-	-	100	99.3	98.1	95.7	90.6	79.8	62.4	44.9	33.7	27.3	FC-380	34	16	SC
8/5/99	FB-40	-	-	-	-	100.0	96.8	93.1	84.2	70.5	55.6	44.7	37.1	FB-40	36	19	SC
8/5/99	FB-41	-	-	-	-	100.0	96.4	92.6	83.8	70.1	55.3	44.4	36.7	FB-41	36	18	SC
8/5/99	FB-42	-	-	-	-	100.0	96.9	93.3	84.9	70.8	55.2	43.8	36.2	FB-42	36	18	SC
8/5/99	FB-43	-	-	-	-	100.0	96.8	92.9	84.1	69.4	53.0	41.5	33.9	FB-43	36	18	SC

**Table C.5. Soil Classification Test Results for the Above-Grade Tailings Impoundment Design Enhancement:
Frost Protection Extension: 1999-2000**

Date Sampled	Gradation Sample ID	PARTICLE SIZE ANALYSIS												Atterberg Sample ID	Atterberg Limits		Unified Soil Classification
		Seive Size (% Passing)													Liquid Limit	Plastic Index	
		6"	3"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200				
															Plan Requirements:		SC and/or S-SM
8/5/99	FB-44	-	-	-	-	100.0	97.2	92.8	83.4	68.9	52.8	41.6	34.5	FB-44	34	17	SC
8/5/99	FC-384	-	-	-	100.0	98.9	97.7	93.8	85.2	69.2	51.2	39.2	32.2	FC-384	35	17	SC
8/5/99	FC-388	-	-	100	98.2	96.3	94.2	90.4	81.5	66.9	51.2	40.4	33.5	FC-388	37	20	SC
8/5/99	FC-392	-	-	100	98.3	97.2	95.6	92.1	84.5	71.3	56.5	45.4	37.8	FC-392	36	19	SC
8/5/99	FC-396	-	-	100.0	99.5	97.9	95.6	91.9	83.1	69.6	54.7	43.7	36.5	FC-396	37	20	SC
8/5/99	FC-400	-	-	100	98.0	95.8	92.3	87.7	79.5	67.5	53.7	43.0	34.7	FC-400	35	18	SC
8/5/99	FC-404	-	-	-	100.0	99.2	97.0	93.0	84.8	71.2	55.6	43.5	35.7	FC-404	35	17	SC
8/5/99	FC-408	-	-	-	100.0	99.3	97.0	93.5	85.7	73.0	58.2	46.4	38.3	FC-408	36	18	SC
8/6/99	FB-45	-	-	-	-	100.0	97.0	92.7	83.3	67.3	50.2	38.5	31.6	FB-45	34	16	SC
8/6/99	FB-46	-	-	-	-	100.0	97.0	93.9	84.5	70.7	55.2	43.9	36.1	FB-46	36	18	SC
8/6/99	FB-47	-	-	-	-	100.0	97.8	93.7	85.0	70.2	54.2	43.1	35.7	FB-47	35	18	SC
8/9/99	FB-48	-	-	-	-	100.0	97.6	93.9	85.6	71.5	56.0	44.5	36.7	FB-48	35	17	SC
8/9/99	FC-412	-	-	100.0	99.0	98.1	96.2	92.8	86.0	75.1	62.2	52.0	44.4	FC-412	39	22	SC
8/9/99	FC-416	-	100	93	92.2	91.5	89.8	85.9	78.4	66.0	52.3	42.6	35.6	FC-416	36	19	SC
8/9/99	FC-420	-	-	100	99	98.8	97.7	95.2	88.5	74.8	56.6	43.1	35.2	FC-420	39	21	SC
8/9/99	FC-424	-	-	100	96	94.5	91.3	86.3	78.8	67.9	55.9	46.3	38.2	FC-424	36	19	SC
8/9/99	FC-428	-	-	100	92.8	89.5	86.7	82.4	76.0	65.8	51.9	40.0	32.0	FC-428	38	20	SC
8/9/99	FC-432	-	-	100.0	98.4	96.1	93.3	90.2	83.3	71.4	56.9	46.1	38.9	FC-432	36	20	SC
8/9/99	FC-436	-	-	100	99.8	99.1	97.8	94.6	87.5	75.2	60.7	49.1	40.6	FC-436	37	19	SC
8/9/99	FC-440	-	-	100	98.2	96.6	93.5	89.6	81.7	69.0	54.6	43.2	35.1	FC-440	33	16	SC
8/9/99	FC-444	-	-	100	99.6	98.6	96.6	92.1	84.2	71.1	56.2	45.2	38.1	FC-444	36	19	SC
8/10/99	FB-49	-	-	-	-	100.0	96.8	93.2	85.3	71.8	56.6	45.4	38.0	FB-49	36	19	SC
8/10/99	FB-50	-	-	-	-	100.0	97.0	93.5	85.6	72.1	56.3	44.5	36.5	FB-50	36	18	SC
8/10/99	FB-51	-	-	-	-	100.0	98.0	94.2	85.7	71.4	55.7	44.3	36.7	FB-51	35	18	SC
8/10/99	FB-52	-	-	-	-	100.0	97.9	94.0	84.9	69.2	52.4	41.0	33.8	FB-52	34	17	SC
8/10/99	FB-54	-	-	-	-	100.0	97.3	93.8	85.4	71.7	56.3	45.4	38.3	FB-54	36	19	SC
8/10/99	FC-448	-	-	100	99.0	97.2	94.8	90.5	82.3	70.3	57.1	46.1	38.4	FC-448	36	19	SC
8/10/99	FC-452	-	-	100	98.0	96.2	94.0	89.4	82.1	70.4	56.8	46.5	38.5	FC-452	37	20	SC
8/10/99	FC-456	-	-	100.0	97	95.5	93.6	89.3	80.4	65.8	50.2	39.2	32.2	FC-456	35	17	SC
8/10/99	FC-464	-	-	100	98.1	96.1	93.6	89.5	81.2	67.7	53.2	42.5	35.2	FC-464	36	18	SC
8/10/99	FC-468	-	100	94	93	91.9	90.0	85.9	78.1	65.3	51.6	41.7	34.1	FC-468	35	18	SC
8/10/99	FC-472	-	-	100	95.7	94.5	92.6	88.5	79.8	64.5	47.7	36.3	29.6	FC-472	33	14	SC
8/10/99	FC-476	-	-	100	97.6	96.3	94.8	90.9	83.4	70.3	55.3	44.0	36.7	FC-476	36	19	SC
8/10/99	FC-480	-	-	100	99.5	98.3	96.3	92.3	82.9	67.4	50.8	39.5	32.5	FC-480	33	16	SC
8/11/99	FB-53	-	-	-	-	100.0	97.3	93.3	84.6	69.4	52.4	40.8	34.0	FB-53	35	18	SC
8/11/99	FB-55	-	-	-	-	100.0	97.1	93.6	84.2	68.3	51.2	30.7	32.7	FB-55	34	16	SC
8/11/99	FB-56	-	-	-	-	100.0	96.5	92.6	83.6	68.2	51.1	39.5	32.6	FB-56	35	18	SC
8/11/99	FB-57	-	-	-	-	100.0	95.9	91.7	82.1	66.4	49.6	38.4	31.5	FB-57	34	16	SC
8/11/99	FC-484	-	-	100	99.0	98.0	95.9	91.4	80.8	63.7	46.2	35.2	28.7	FC-484	34	16	SC
8/11/99	FC-488	-	100	97	94.4	93.6	91.8	87.9	79.6	65.3	49.7	39.1	32.3	FC-488	35	18	SC
8/11/99	FC-492	-	100	97	96.5	95.4	92.8	88.7	79.9	64.7	48.4	37.6	30.7	FC-492	34	16	SC
8/11/99	FC-496	-	-	-	100	99.0	97.9	94.4	86.5	72.0	55.2	42.5	34.8	FC-496	38	19	SC
8/12/99	FB-58	-	-	-	-	100.0	97.7	94.5	87.1	74.6	59.6	48.4	40.7	FB-58	36	20	SC
8/12/99	FB-59	-	-	-	-	100.0	97.8	94.4	85.8	70.7	53.8	42.0	34.8	FB-59	34	18	SC
8/12/99	FB-60	-	-	-	-	100.0	96.7	93.5	86.0	72.2	56.1	44.5	37.6	FB-60	35	18	SC

**Table C.5. Soil Classification Test Results for the Above-Grade Tailings Impoundment Design Enhancement:
Frost Protection Extension: 1999-2000**

Date Sampled	Gradation Sample ID	PARTICLE SIZE ANALYSIS												Atterberg Sample ID	Atterberg Limits		Unified Soil Classification
		Seive Size (% Passing)													Liquid Limit	Plastic Index	
		6"	3"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200				
															Plan Requirements:		SC and/or S-SM
8/12/99	FC-504	-	100	99	97.7	94.7	92.0	87.8	80.0	67.9	54.1	43.7	36.4	FC-504	35	18	SC
8/12/99	FC-508	-	100	98	94.2	93.5	91.5	87.6	79.5	65.8	50.4	39.9	33.2	FC-508	36	19	SC
8/12/99	FC-512	-	-	100	98.5	97.7	96.1	92.0	83.3	67.7	50.7	39.4	33.1	FC-512	35	17	SC
8/12/99	FC-516	-	-	100	99.0	97.8	95.9	92.6	84.8	70.5	54.0	42.8	35.7	FC-516	36	19	SC
8/12/99	FC-520	-	-	100	98.0	95.2	92.9	89.2	81.6	68.6	53.3	42.4	35.2	FC-520	36	19	SC
8/13/99	FB-61	-	-	-	-	100.0	97.0	92.8	84.3	70.1	54.1	42.5	35.4	FB-61	34	17	SC
8/13/99	FB-62	-	-	-	-	100.0	97.0	92.9	84.2	69.4	53.0	41.6	34.3	FB-62	35	18	SC
8/13/99	FB-63	-	-	-	-	100.0	96.0	92.3	83.8	69.2	52.7	40.9	33.6	FB-63	34	16	SC
8/13/99	FC-524	-	100	98.4	98	96.7	94.3	89.9	81.3	67.0	51.1	40.2	33.3	FC-524	36	19	SC
8/13/99	FC-528	-	-	100	97.8	97.6	95.3	90.9	81.3	65.1	37.3	35.4	28.5	FC-528	34	16	SC
8/13/99	FC-532	-	-	100.0	99	98.1	96.3	92.5	84.1	70.1	54.3	43.1	35.8	FC-532	37	20	SC
8/13/99	FC-536	-	100.0	94.9	90.7	88	86.0	82.5	76.0	65.1	52.4	42.9	36.0	FC-536	38	21	SC
8/16/99	FB-64	-	-	-	-	100	96.4	92.4	83.0	67.5	51.0	39.8	32.8	FB-64	35	18	SC
8/16/99	FC-540	-	-	100.0	99.0	98	96.8	92.9	84.2	69.1	52.3	40.7	33.6	FC-540	35	17	SC
8/16/99	FC-544	-	100.0	95.0	91.2	90	88.2	84.0	75.0	60.5	44.9	34.7	28.6	FC-544	36	18	SC
8/16/99	FC-548	-	-	-	100.0	98	94.2	90.0	82.2	69.3	54.7	44.1	36.8	FC-548	36	20	SC
8/17/99	FB-65	-	-	-	-	100	96.4	92.7	84.3	69.4	52.4	40.8	33.6	FB-65	34	17	SC
8/17/99	FB-66	-	-	-	-	100	97.1	93.2	84.8	70.2	53.7	42.3	35.1	FB-66	35	18	SC
8/17/99	FC-552	-	-	100.0	99.0	98	96.4	93.6	87.0	75.4	60.8	48.9	40.9	FC-552	39	22	SC
8/17/99	FC-556	-	100.0	94.8	93.7	93	91.1	87.0	78.5	63.7	47.2	36.5	30.1	FC-556	34	17	SC
8/17/99	FC-560	-	-	100.0	98.6	98	96.5	93.0	95.3	72.0	57.2	46.5	39.5	FC-560	37	21	SC
8/17/99	FC-564	-	-	100.0	95.3	93	91.5	87.9	79.7	65.4	49.5	38.6	31.9	FC-564	34	17	SC
8/17/99	FC-568	-	100.0	98.3	95.7	93	90.4	86.2	79.0	67.3	53.9	43.9	36.6	FC-568	34	17	SC
8/17/99	FC-572	-	-	100.0	96.2	95	92.1	88.2	81.2	70.6	58.1	48.3	40.3	FC-572	35	18	SC
8/18/99	FC-580	-	-	100.0	98.3	98	95.1	91.0	82.4	67.9	52.1	40.9	33.7	FC-580	35	18	SC
8/18/99	FC-584	-	100.0	97.1	93.9	92	90.3	86.6	79.2	66.9	52.7	42.1	34.8	FC-584	36	19	SC
8/19/99	FB-67	-	-	-	-	100	95.8	91.8	82.5	66.8	49.7	38.2	31.5	FB-67	38	19	SC
8/19/99	FC-588	-	-	100.0	99.3	98	96.3	91.4	81.8	65.9	49.6	39.2	33.5	FC-588	35	19	SC
8/19/99	FC-596	-	-	100.0	98.0	97	94.9	91.2	83.9	71.6	57.2	46.0	38.1	FC-596	36	19	SC
8/19/99	FC-600	-	-	100.0	97.7	97	94.2	90.1	82.5	70.3	56.6	46.3	39.0	FC-600	36	20	SC
8/19/99	FC-604	-	-	100.0	99.6	98	95.8	91.7	83.7	70.0	54.4	43.2	35.6	FC-604	35	18	SC
8/20/99	FC-608	-	100.0	95.9	93.2	92	89.8	85.2	76.6	63.2	48.3	37.6	30.7	FC-608	35	17	SC
8/20/99	FC-612	-	-	100.0	99.6	98	96.0	92.1	83.0	67.4	50.0	38.4	31.4	FC-612	36	18	SC
8/20/99	FC-616	-	-	100.0	98.5	97	95.9	92.4	85.2	72.5	57.3	45.5	37.7	FC-616	36	20	SC
8/20/99	FC-620	-	-	-	100.0	99	97.5	93.7	85.7	72.0	56.1	44.7	37.1	FC-620	35	18	SC
8/20/99	FC-624	-	-	100.0	96.0	95	93.3	89.8	82.8	70.8	56.6	45.8	38.3	FC-624	38	21	SC
8/23/99	FC-628	-	-	-	100.0	98.8	97.1	92.9	84.8	71.5	56.1	44.9	37.1	FC-628	35	17	SC
8/23/99	FC-632	-	-	100.0	97.4	96	94.5	90.1	81.7	67.9	52.4	41.3	34.3	FC-632	35	17	SC
8/24/99	FB-68	-	-	-	-	100	97.2	92.8	82.1	65.2	48.0	36.8	29.7	FB-68	30	10	SC
8/24/99	FB-69	-	-	-	-	100	96.9	91.9	82.2	66.0	49.1	37.3	28.9	FB-69	31	10	SC
8/24/99	FC-636	-	-	100.0	98.7	98	97.1	94.5	89.3	79.8	66.5	53.8	44.4	FC-636	39	21	SC
8/24/99	FC-640	-	-	100.0	99.3	98	95.5	92.0	84.8	72.5	58.3	47.8	39.7	FC-640	35	17	SC
8/24/99	FC-644	-	-	100.0	99.4	96	93.4	87.5	76.3	59.4	43.2	32.9	26.2	FC-644	31	13	SC
8/24/99	FC-648	-	-	100.0	96.1	93	89.6	85.4	77.2	65.1	51.8	41.8	34.0	FC-648	33	15	SC
8/25/99	FC-652	-	-	100.0	98.9	98	96.2	91.5	81.0	64.7	48.8	39.0	32.4	FC-652	32	14	SC

**Table C.5. Soil Classification Test Results for the Above-Grade Tailings Impoundment Design Enhancement:
Frost Protection Extension: 1999-2000**

Date Sampled	Gradation Sample ID	PARTICLE SIZE ANALYSIS												Atterberg Sample ID	Atterberg Limits		Unified Soil Classification
		Seive Size (% Passing)													Liquid Limit	Plastic Index	
		6"	3"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200				
															Plan Requirements:		SC and/or S-SM
8/26/99	FC-656	-	-	100.0	98.9	98	95.5	91.6	84.5	74.6	62.9	53.8	45.1	FC-656	33	16	SC
8/26/99	FC-664	-	-	-	-	100	98.4	95.1	88.9	79.8	70.4	63.1	54.1	FC-664	40	22	CL
8/27/99	FC-668	-	-	100.0	98.5	97	96.4	94.1	90.3	84.7	78.4	72.8	62.8	FC-668	42	24	CL
8/27/99	FC-672	-	-	100.0	99.7	98	96.1	92.9	86.4	75.1	61.0	49.8	41.7	FC-672	39	22	SC
8/30/99	FC-676	-	100.0	97.6	97.0	96	93.1	88.8	80.2	68.2	56.6	48.6	41.3	FC-676	36	19	SC
8/31/99	FB-70	-	-	-	-	100	96.5	90.7	81.4	65.5	47.6	37.1	30.2	FB-70	32	13	SC
8/31/99	FC-680	-	100.0	96.9	95.9	95	92.3	88.2	81.3	71.5	61.6	54.0	46.2	FC-680	37	19	SC
9/1/99	FC-684	-	-	-	-	100	97.4	91.4	81.9	69.3	57.5	49.9	43.1	FC-684	36	17	SC
5/18/00	FB-71	-	-	-	-	100	97.4	92.1	82.8	67.0	41.4	26.4	20.6	FB-71	28	6	SC-SM
5/25/00	FC-689	-	-	-	-	100	96.6	92.4	85.4	72.7	64.6	43.7	34.9	FC-689	35	20	SC
5/26/00	FB-72	-	-	-	-	100	98.5	92.0	79.8	64.8	50.8	41.3	34.4	FB-72	35	18	SC
5/26/00	FC-693	-	-	-	-	100	96.0	91.8	82.3	66.8	51.9	41.8	34.4	FC-693	31	16	SC
5/26/00	FC-697	-	100.0	91.8	85.2	81	77.0	71.4	61.4	40.1	25.7	18.6	14.1	FC-697	22	5	SC-SM
5/26/00	FC-701	-	100.0	92.6	88.5	86	82.3	75.8	62.8	45.3	30.4	21.0	15.7	FC-701	27	11	SC
5/30/00	FB-73	-	-	-	-	100	95.2	87.0	70.7	48.7	32.7	24.9	20.5	FB-73	30	12	SC
5/30/00	FC-705	-	100.0	97.5	90.5	87	83.9	77.8	65.7	47.8	33.1	23.9	18.4	FC-705	27	11	SC
5/30/00	FC-709	-	-	100.0	99.5	97	94.7	90.3	81.3	66.9	49.9	34.5	24.1	FC-709	29	13	SC
5/31/00	FB-74	-	-	-	-	100	98.6	95.6	89.2	78.9	66.0	54.0	44.5	FB-74	36	19	SC
5/31/00	FC-713	-	100.0	97.2	95.1	89	85.7	77.1	59.6	40.9	24.9	15.7	12.0	FC-713	NP	NP	SW-SM
5/31/00	FC-717	-	100.0	89.6	86.9	84	82.2	78.3	71.6	58.3	43.8	31.6	22.3	FC-717	29	13	SC
5/31/00	FC-721	-	-	-	100.0	98	97.3	94.8	88.5	76.6	60.9	46.7	37.6	FC-721	32	17	SC
5/31/00	FC-726	-	-	100.0	96.7	92	88.0	83.0	75.0	59.9	44.9	32.7	23.7	FC-726	33	14	SC
6/1/00	FB-75	-	-	-	100.0	98	94.9	89.3	78.3	61.8	46.1	35.8	29.7	FB-75	36	18	SC
6/1/00	FC-730	-	100.0	96.3	92.2	90	87.9	84.0	77.6	64.9	52.0	41.1	32.8	FC-730	35	18	SC
6/2/00	FB-76	-	-	-	100.0	100	96.5	92.2	82.0	65.9	46.0	32.2	25.5	FB-76	31	12	SC
6/2/00	FB-77	-	-	-	-	100	97.3	93.6	87.9	81.1	72.7	64.8	54.6	FB-77	38	19	CL
6/2/00	FC-734	-	-	-	-	100	98.2	95.6	88.7	76.8	62.4	45.0	30.4	FC-734	31	16	SC
6/2/00	FC-735	-	-	-	-	100	99.1	98.1	96.3	92.9	86.5	77.7	64.0	FC-735	34	17	CL
6/2/00	FC-739	-	-	-	-	100	98.1	94.5	89.2	81.8	74.2	66.7	54.8	FC-739	41	24	CL
6/5/00	FB-78	-	-	-	-	100	97.8	93.1	86.9	79.2	67.7	55.2	43.6	FB-78	34	15	SC
6/5/00	FC-744	-	-	-	-	100	99.3	97.9	95.1	89.8	83.6	70.0	47.6	FC-744	36	18	SC
6/5/00	FC-748	-	-	-	-	100	99.8	99.3	97.5	91.7	78.2	69.6	63.2	FC-748	42	26	CL
6/5/00	FC-752	-	-	-	-	100	98.7	98.2	96.4	88.9	73.5	65.3	57.1	FC-752	39	22	CL
6/5/00	FC-759	-	100.0	95.4	91.3	88	86.6	83.7	78.0	68.9	54.6	46.8	41.0	FC-759	38	22	SC
6/6/00	FB-79	-	-	-	-	100	98.0	95.1	90.2	80.1	58.9	47.8	41.8	FB-79	40	21	SC
6/6/00	FB-80	-	-	-	-	100	98.9	96.8	92.3	83.3	62.7	52.9	47.4	FB-80	40	21	SC
6/6/00	FC-762	-	-	100.0	98.9	98	96.3	93.2	87.1	76.7	60.2	51.2	43.9	FC-762	39	23	SC
6/6/00	FC-766	-	-	100.0	95.5	89	87.9	84.2	75.2	56.7	41.8	33.4	27.8	FC-766	42	27	SC
6/6/00	FC-770	-	-	-	-	100	99.0	97.1	92.9	82.9	63.7	52.5	45.1	FC-770	36	17	SC
6/6/00	FC-775	-	-	100.0	99.5	97	95.7	93.9	90.6	80.2	59.3	48.8	42.1	FC-775	35	17	SC
6/7/00	FB-81	-	-	-	-	100	98.9	97.7	94.9	90.2	83.2	66.0	50.6	FB-81	43	22	CL
6/7/00	FC-779	-	100.0	95.3	91.3	90	88.8	86.3	81.5	70.9	54.1	42.9	35.9	FC-779	37	18	SC
6/7/00	FC-782	-	-	-	-	100	99.5	97.8	94.1	83.8	67.9	57.9	46.9	FC-782	39	23	SC
6/7/00	FC-787	-	-	-	-	100	99.6	97.4	92.1	80.4	62.1	52.6	42.7	FC-787	38	18	SC
6/7/00	FC-791	-	-	-	-	100	99.8	98.8	96.6	88.7	74.7	65.8	56.2	FC-791	42	23	CL

**Table C.5. Soil Classification Test Results for the Above-Grade Tailings Impoundment Design Enhancement:
Frost Protection Extension: 1999-2000**

Date Sampled	Gradation Sample ID	PARTICLE SIZE ANALYSIS												Atterberg Sample ID	Atterberg Limits		Unified Soil Classification
		Seive Size (% Passing)													Liquid Limit	Plastic Index	
		6"	3"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200				
															Plan Requirements:		SC and/or S-SM
6/7/00	FC-795	-	-	-	-	-	100.0	98.1	93.8	86.7	63.6	31.0	21.1	FC-795	29	8	SC
6/8/00	FB-82	-	-	-	-	100	96.1	88.6	76.0	60.3	44.7	33.7	26.5	FB-82	39	16	SC
6/8/00	FB-83	-	-	-	-	100	98.4	94.4	85.5	65.2	40.2	30.9	26.3	FB-83	37	16	SC
6/8/00	FC-799	-	-	-	-	100	99.2	98.4	96.8	93.5	86.9	70.8	52.1	FC-799	40	20	CL
6/8/00	FC-804	-	-	-	-	100	99.8	98.3	96.3	91.7	84.6	73.0	53.7	FC-804	43	27	CL
6/8/00	FC-808	-	-	-	-	100	99.8	98.0	93.5	82.3	65.8	55.7	43.3	FC-808	36	19	SC
6/8/00	FC-812	-	-	-	-	100	99.7	95.7	86.9	73.1	56.3	45.2	38.6	FC-812	34	16	SC
6/8/00	FC-815	-	-	100.0	95.1	90	89.2	88.4	86.6	81.7	73.0	48.5	28.5	FC-815	38	20	SC
6/9/00	FB-84	-	-	-	-	100	99.7	98.7	94.9	85.8	70.8	61.6	55.1	FB-84	43	23	CL
6/9/00	FB-85	-	-	-	-	100	99.6	99.0	96.9	93.5	86.6	61.2	40.6	FB-85	37	10	SC
6/9/00	FC-820	-	-	-	-	100	99.7	99.2	97.9	94.9	88.4	75.7	60.1	FC-820	45	26	CL
6/9/00	FC-824	-	-	-	-	100	99.8	99.3	98.4	95.4	89.7	79.9	57.9	FC-824	46	29	CL
6/9/00	FC-828	-	-	-	-	100	99.2	97.8	95.0	87.7	77.0	64.1	52.0	FC-828	37	23	CL
6/9/00	FC-832	-	-	-	-	100	98.5	96.1	91.3	84.2	74.9	63.5	50.5	FC-832	32	15	CL
6/12/00	FB-86	-	-	-	-	100	99.8	98.6	95.9	90.7	76.6	58.1	44.1	FB-86	35	14	SC
6/12/00	FB-87	-	-	-	-	100	98.5	95.3	90.2	83.3	73.7	61.8	49.0	FB-87	35	16	SC
6/12/00	FB-88	-	-	-	-	100	99.9	99.1	96.0	87.9	73.3	54.3	41.3	FB-88	37	16	SC
6/12/00	FC-836	-	-	100.0	97.6	97	96.8	96.0	93.9	87.8	74.7	58.5	47.7	FC-836	35	20	SC
6/12/00	FC-840	-	-	-	-	100	99.5	98.7	96.9	91.2	77.9	61.4	45.7	FC-840	34	17	SC
6/12/00	FC-849	-	-	-	-	100	99.7	99.0	95.9	87.6	73.3	54.8	40.6	FC-849	34	19	SC
6/12/00	FC-845	-	-	-	-	100	98.6	95.6	89.4	75.8	61.0	51.5	41.2	FC-845	35	18	SC
6/13/00	FB-89	-	-	-	-	100	99.6	98.2	95.3	89.4	78.1	64.0	52.8	FB-89	40	20	CL
6/13/00	FB-90	-	-	-	-	100	98.9	96.7	91.8	83.7	70.3	57.0	47.7	FB-90	41	22	SC
6/13/00	FC-853	-	-	-	-	100	99.0	97.9	95.4	89.3	74.0	48.4	32.2	FC-853	32	12	SC
6/13/00	FC-857	-	-	-	-	100	99.8	99.1	97.2	92.3	80.4	56.2	38.9	FC-857	34	15	SC
6/13/00	FC-861	-	-	-	-	100	99.9	99.3	97.2	92.9	85.0	68.0	48.1	FC-861	36	18	SC
6/13/00	FC-865	-	-	-	-	100	99.2	97.9	95.2	89.3	79.0	65.5	53.7	FC-865	38	20	CL
6/14/00	FC-869	-	-	-	-	100	99.3	97.0	92.3	84.0	71.4	57.4	45.6	FC-869	38	21	SC
6/14/00	FC-873	-	-	-	-	100	99.2	97.5	92.8	85.1	76.4	64.4	50.3	FC-873	38	19	CL
6/14/00	FC-877	-	100.0	91.6	87.3	86	84.2	80.4	71.9	60.0	48.3	39.4	32.5	FC-877	35	20	SC
6/15/00	FB-91	-	-	-	-	100	96.0	88.1	73.3	53.6	36.9	28.4	23.9	FB-91	44	23	SC
6/15/00	FB-92	-	-	-	-	100	95.2	87.7	75.7	61.0	47.5	39.0	33.2	FB-92	41	22	SC
6/15/00	FC-881	-	-	100.0	97.1	95	93.1	87.0	76.8	62.5	48.8	39.5	32.8	FC-881	38	23	SC
6/15/00	FC-885	-	-	100.0	97.8	95	92.5	87.8	77.4	64.8	51.0	42.6	36.0	FC-885	41	27	SC
6/15/00	FC-889	-	-	100.0	99.3	97	94.4	90.3	83.7	71.8	61.3	53.2	44.5	FC-889	36	20	SC
6/15/00	FC-893	-	-	-	-	100	98.9	96.8	92.4	83.4	68.3	56.8	46.8	FC-893	37	21	SC
6/15/00	FC-897	-	-	-	-	100	99.3	97.7	94.6	86.7	75.4	61.0	45.7	FC-897	36	20	SC
6/19/00	FB-93	-	-	-	-	100	99.1	96.7	92.2	86.3	80.1	74.2	64.1	FB-93	39	20	CL
6/19/00	FB-94	-	-	-	-	100	98.8	96.5	91.7	82.1	65.9	55.1	48.4	FB-94	42	23	SC
6/19/00	FC-901	-	-	-	-	100	99.4	98.4	96.3	92.0	84.0	66.1	43.4	FC-901	35	16	SC
6/19/00	FC-906	-	100.0	97.2	96.9	96	94.0	90.1	83.0	72.2	57.6	45.8	37.5	FC-906	35	17	SC
6/19/00	FC-910	-	100.0	95.6	93.8	92	89.1	83.2	71.9	56.9	42.7	33.1	27.3	FC-910	39	23	SC
6/19/00	FC-912	-	-	-	-	100	99.1	98.1	95.3	87.2	71.3	58.4	48.2	FC-912	35	16	SC
6/20/00	FB-95	-	-	-	-	100	99.6	98.4	95.3	86.7	65.5	50.2	41.7	FB-95	36	17	SC
6/20/00	FB-96	-	-	-	-	100	99.8	98.6	95.3	86.3	64.4	48.9	40.7	FB-96	34	15	SC

**Table C.5. Soil Classification Test Results for the Above-Grade Tailings Impoundment Design Enhancement:
Frost Protection Extension: 1999-2000**

Date Sampled	Gradation Sample ID	PARTICLE SIZE ANALYSIS												Atterberg Sample ID	Atterberg Limits		Unified Soil Classification
		Seive Size (% Passing)													Liquid Limit	Plastic Index	
		6"	3"	1 1/2"	3/4"	3/8"	#4	#8	#16	#30	#50	#100	#200				
															Plan Requirements:		SC and/or S-SM
6/20/00	FB-97	-	-	-	-	100	99.1	96.6	91.8	83.7	71.0	57.8	47.8	FB-97	40	21	SC
6/20/00	FC-917	-	100.0	96.9	96.0	93	90.9	87.8	81.1	70.6	54.9	42.1	32.6	FC-917	36	23	SC
6/20/00	FC-921	-	-	100.0	98.4	95	91.7	86.6	74.7	57.8	41.3	30.7	24.4	FC-921	35	18	SC
6/20/00	FC-925	-	-	100.0	98.8	94	91.2	86.7	77.5	63.8	47.8	36.3	28.6	FC-925	35	19	SC
6/22/00	FB-98	-	-	-	-	100	99.8	98.8	93.9	82.2	64.3	45.8	33.7	FB-98	35	13	SC
6/22/00	FB-99	-	-	-	-	100	99.9	99.3	97.1	91.5	80.6	67.7	55.6	FB-99	40	19	CL
6/22/00	FC-930	-	-	-	100.0	99	98.0	95.5	90.8	82.1	68.3	51.6	38.6	FC-930	35	18	SC
6/22/00	FC-934	-	-	100.0	99.6	99	98.2	96.0	92.1	85.5	74.4	56.4	40.3	FC-934	32	16	SC
6/22/00	FC-938	-	-	100.0	98.8	98	96.6	94.1	89.8	82.3	70.9	57.3	44.5	FC-938	36	21	SC
6/22/00	FC-942	-	-	100.0	99.3	99	98.7	96.9	93.1	85.6	72.7	54.2	38.2	FC-942	32	15	SC
6/22/00	FC-946	-	-	-	100.0	100	99.2	97.4	93.2	85.5	73.3	56.2	40.4	FC-946	36	18	SC
6/26/00	FB-100	-	-	-	-	100	99.8	98.8	96.7	91.5	77.9	56.7	42.8	FB-100	35	13	SC
6/23/00	FC-950	-	-	100.0	99.3	99	97.8	95.5	90.7	82.1	70.8	53.0	39.2	FC-950	33	16	SC
6/23/00	FC-954	-	-	-	-	100	98.4	96.9	92.3	83.4	70.5	54.0	40.2	FC-954	34	18	SC
6/23/00	FC-959	-	-	100.0	98.6	98	97.4	65.2	90.7	82.4	69.5	51.4	37.5	FC-959	33	16	SC
7/18/00	FC-963	-	-	-	-	100	99.3	96.0	87.8	73.4	57.7	44.8	35.6	FC-963	33	18	SC
7/18/00	FB-101	-	-	-	-	100	98.3	94.8	86.7	73.0	56.9	44.3	36.2	FB-101	35	17	SC
7/19/00	FC-967	-	100.0	96.3	94.8	94	91.3	87.3	79.1	66.0	51.8	39.8	31.3	FC-967	30	15	SC
7/28/00	FC-971	-	-	100.0	96.5	96	93.8	89.9	81.2	67.5	53.3	41.5	33.1	FC-971	34	19	SC
7/28/00	FB-102	-	-	-	-	100	98.6	95.7	88.8	77.1	61.2	46.9	38.0	FB-102	36	17	SC
8/2/00	FC-975	-	-	100.0	98.8	97	95.4	93.0	87.4	76.6	62.7	48.7	38.3	FC-975	32	16	SC
8/3/00	FC-979	-	-	-	100.0	99	97.1	93.7	86.3	74.0	60.4	48.1	38.6	FC-979	36	22	SC
8/3/00	FC-983	-	-	-	100.0	99	98.1	95.1	88.3	76.2	62.2	49.3	39.4	FC-983	35	20	SC
8/3/00	FB-103	-	-	100.0	98.9	98	95.8	91.9	83.0	68.8	53.2	41.7	34.1	FB-103	36	18	SC
8/4/00	FC-987	-	-	100.0	95.2	94	92.1	88.4	79.3	64.9	50.8	39.9	31.8	FC-987	36	23	SC
8/24/00	FB-104	-	-	-	-	100	98.9	95.7	88.4	75.5	60.4	48.1	40.0	FB-104	39	21	SC
9/5/00	FC-989	-	-	100.0	98.3	97	94.8	91.0	84.0	70.5	57.6	47.3	38.6	FC-989	36	22	SC
9/6/00	FC-993	-	-	100.0	98.8	98	97.7	95.1	88.1	76.0	62.4	49.7	39.3	FC-993	38	23	SC
9/7/00	FC-997	-	-	-	-	-	100.0	99.5	97.7	85.4	64.8	52.8	44.9	FC-997	41	23	SC
9/7/00	FB-105	-	-	-	-	100	99.6	98.9	97.1	84.9	63.1	51.6	45.0	FB-105	42	25	SC

averages: 100.0 99.1 97.4 97.0 94.9 91.2 83.8 71.0 57.7 44.7 36.5

Unified Soil Classification Summary

Type	Defined	Number (%)	
SC	Clayey Sand	316	92.9%
CL	Lean Clay	21	6.2%
SC-SM	Silty, Clayey Sand	2	0.6%
SW-SM	Well-Graded Sand w/ Silt	1	0.4%

Total Number of Tests (N): 340 (N gradations = 343)

average: 35.7 18.0

minimum: 22.0 5.0

maximum: 47.0 30.0

standard deviation: 3.0 3.5

Total Quantities placed: 496,555

Testing Frequency: 1: 1460 CY Frequency exceeds the 1:2000 CY